

Climate Change, Sea Level Rise, and Artificial Islands: Saving the Maldives’ Statehood and Maritime Claims Through the ‘Constitution of the Oceans’

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I. INTRODUCTION

On October 17, 2009, President of the Republic of the Maldives, Mohamed Nasheed, held a meeting with other government officials in which a declaration making a demand for global carbon emissions reductions was signed.¹ This was not a surprising decision by the Maldivian president, who has become a critical advocate in mitigating climate change since his election in 2008.² However, this was no ordinary meeting between President Nasheed and his Cabinet.³ The meeting took place thirteen feet underwater.⁴ Wearing scuba gear, the President and his eleven ministers sat around a submerged table, complete with name plates and an array of tropical fish swimming around them, as they each signed a declaration that stated: “We must unite in a global effort to halt further temperature rises.”⁵

Commentators of President Nasheed’s underwater meeting called it a media stunt, but the meeting nonetheless highlights the fact that the Maldives may become uninhabitable by the end of the twenty-first century due to the effects of climate change.⁶ The Intergovernmental Panel on Climate Change (“IPCC”) concluded in 2007 that average air and sea temperatures are on the rise worldwide, and that ice and snow is melting at a rapid pace.⁷ Even more alarming are the consequences of this: sea levels are rising worldwide.⁸

Sea level rise will have a severe impact on small island states, particularly the Maldives, which has an average elevation of only 1.5 meters above sea level.⁹ Many small island states worldwide may

1. *From Underwater, Maldives Sends Warning on Climate Change*, CNNWORLD, Oct. 17, 2009, http://articles.cnn.com/2009-10-17/world/maldives.underwater.meeting_1_maldives-climate-change-sea-levels?_s=PM:WORLD (last visited Oct. 4, 2011).

2. Emily Wax, *Maldives’ Unconventional President Takes on Dominant Role in Climate Battle*, WASH. POST, Dec. 10, 2009, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/12/09/AR2009120904229.html>.

3. CNN, *supra* note 1.

4. Olivia Lang, *Maldives Leader in Climate Change Stunt*, BBC NEWS, Oct. 17, 2009, <http://news.bbc.co.uk/2/hi/8312320.stm> (last visited Oct. 5, 2011).

5. *Id.*

6. Wax, *supra* note 2.

7. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS, CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 5 (Susan Solomon et al. eds., 2007).

8. *Id.*

9. John H. Knox, *Linking Human Rights and Climate Change at the United Nations*, 33 HARV. ENVTL. L. REV. 477, 480 (2009).

become completely submerged as sea levels continue to rise.¹⁰ For the Maldives, a 0.49 meter rise in sea level would mean that significant portions of the archipelagic state would be severely inundated by 2100.¹¹ Moreover, at such a rate of sea level rise, fifteen percent of the Maldives' capital island of Malé would be submerged by 2025, with fifty percent submerged by 2100.¹² One third of the Maldives' 300,000 nationals live on the congested capital island.¹³

Although the complete submergence of a small island state due to rising sea levels has not yet occurred,¹⁴ the possibility of such an event raises complex questions under international law.¹⁵ One issue is whether, in the event of complete submersion, an island state ceases to exist, given that the notion of statehood arguably encompasses the requirement of a defined territory.¹⁶ A related issue is whether a submerged island state

10. WORLD METEOROLOGICAL ORGANIZATION, SAVING PARADISE: ENSURING SUSTAINABLE DEVELOPMENT 3 (2005), available at <http://www.wmo.int/pages/publications/showcase/documents/WMO973.pdf>; James G. Titus, *Rising Sea Levels: The Impact They Pose*, 12 EPA J. 17, 18 (1986).

11. Submission of the Maldives to the Office of the U.N. High Commissioner for Human Rights under Human Rights Council Res. 7/23 (Sept. 25, 2008), http://www2.ohchr.org/english/issues/climatechange/docs/submissions/Maldives_Submission.pdf [hereinafter *Maldives OHCHR Submission*]. An archipelagic state is "a State constituted wholly by one or more archipelagos and may include other islands." U.N. Convention on the Law of the Sea art. 46(a), Dec. 10, 1982, 1833 U.N.T.S. 396 [hereinafter LOSC].

12. Maldives OHCHR Submission, *supra* note 11.

13. Frank McDonald, *Paradise in a Perilous State*, IRISH TIMES, Dec. 5, 2009, at 1.

14. *Id.*

15. See, e.g., Shaina Stahl, *Unprotected Ground: The Plight of Vanishing Island Nations*, 23 N.Y. INT'L L. REV. 1, 29-30 (2010) (discussing whether a submerged state maintains its statehood).

16. Montevideo Convention on the Rights and Duties of States art. 1, Dec. 26, 1933, 165 L.N.T.S. 19 [hereinafter *Montevideo Convention*]; Lilian Yamamoto & Miguel Esteban, *Vanishing Island States and Sovereignty*, 53 OCEAN & COASTAL MGMT. 1, 4 (2010). There is some consensus among the international community that the permanent submergence of an island state means that it ceases to exist as a state. See, e.g., U.N. HIGH COMMISSIONER FOR REFUGEES, CLIMATE CHANGE AND STATELESSNESS: AN OVERVIEW 1-2 (May 15, 2009), available at <http://www.unhcr.org/refworld/docid/4a2d189d3.html> [hereinafter *UNHCR Report*]; G.A. Res. 63/213, U.N. Doc. A/RES/63/213 (Feb. 10, 2009), available at http://www.sidsnet.org/msi_5/docs/res/res_63_213E.pdf (discussing how climate change and rises in sea level poses risks to the continued viability of some small island developing states); PERMANENT MISSION OF THE REPUBLIC OF NAURU TO THE U.N., VIEWS ON THE POSSIBLE SECURITY IMPLICATIONS OF CLIMATE CHANGE TO BE INCLUDED IN THE REPORT OF THE SECRETARY-GENERAL TO THE 64TH SESSION OF THE UNITED NATIONS GENERAL ASSEMBLY 10 (2009), available at http://www.un.org/esa/dsd/resources/res_pdfs/ga-64/cc-inputs/PSIDS_CCIS.pdf [hereinafter *Nauru Report*] (discussing how states will be wiped off the face of the earth

loses its maritime claims,¹⁷ which are of critical economic importance to small island states.¹⁸

Arguably, the answers to these two questions would be in the affirmative, meaning that small island states have a strong interest in adjusting to the potential impacts of climate change, particularly through large-scale engineering strategies.¹⁹ The Maldives has emerged as a leader in complex engineering projects to battle sea level rise.²⁰ One of

rising sea levels).

17. See Rosemary Rayfuse, *W(h)ither Tuvalu? International Law and Disappearing States* 2-4 (Univ. of N.S.W. Faculty of Law Research Series, Working Paper No. 9, 2009), available at <http://law.bepress.com/cgi/viewcontent.cgi?article=1151&context=unswwps>. The 1982 United Nations Convention on the Law of the Sea (LOSC) dictates that maritime zones are generally calculated by relation to a state's land mass, and scholars have interpreted the Convention to encompass the idea that as a state's coastline fluctuates due to sea level rise, the outer limits of its maritime zones are affected. See, e.g., LOSC, *supra* note 11, art. 5 (discussing calculation of the territorial sea using a baseline which reflects the coast's low-water line); UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982: A COMMENTARY Vol. III (Myron H. Nordquist et al., eds. 1993) [hereinafter LOSC COMMENTARY III]; see CHRIS WOLD & DAVID HUNTER, CLIMATE CHANGE AND THE LAW 417-18 (2009); Achim Maas & Alexander Carius, Territorial Integrity and Sovereignty: Climate Change and Security in the Pacific and Beyond 6 (2010) (unpublished manuscript) (on file with the Royal Norwegian Soc'y of Sci. and Letters), available at http://climsec.prio.no/papers/Paper_Trondheim_PSIDS_CCIS_Maas_Carius_final_revised.pdf (“[I]nstead of opening up new resources, sea-level rise is likely leading to shrinking maritime territories and thus international disputes over extent of current boundaries”); see also David D. Caron, *When Law Makes Climate Change Worse: Rethinking the Law of Baselines in Light of a Rising Sea Level*, 17 *ECOLOGY L.Q.* 621, 634 (1990) [hereinafter *Caron 1990*] (discussing how the existence of maritime zones in the LOSC depends on the baseline's continued presence).

18. See, e.g., EUR, REGIONAL SURVEYS OF THE WORLD: THE FAR EAST AND AUSTRALASIA 2003 822 (34th ed. 2002) (discussing how fishing is a critical aspect of the Maldivian economy and how foreign fishing licenses to fish in the Maldives' exclusive economic zone contributes extensively to its economy); MICHAEL WITTER ET AL., MEASURING AND MANAGING THE ECONOMIC VULNERABILITY OF SMALL ISLAND STATES (2002), available at http://www.sidsnet.org/docshare/other/Jamaica_rt_Economic_Vulnerability-Paper.doc; A.H.A. Soons, *The Effects of a Rising Sea Level on Maritime Limits and Boundaries*, 37(2) *NETH. INT'L L. REV.* 207, 210 (1990); see, e.g., LOSC, *supra* note 11, at art. 56(1)(a) (discussing how a coastal state has sovereignty over the living and non-living natural resources in its exclusive economic zone).

19. Edward Cameron, *The Human Dimension of Global Climate Change*, 15 *HASTINGS W.-NW. J. ENVTL. L. & POL'Y* 1, 8 (2009).

20. *Sea Wall 'Saves Maldives Capital*, BBC NEWS, Jan. 10, 2005, http://news.bbc.co.uk/2/hi/south_asia/4161491.stm (last visited Oct. 4, 2011); KOJI FUJIMA ET AL., PRELIMINARY REPORT ON THE SURVEY RESULTS OF 26/12/2004 INDIAN OCEAN TSUNAMI IN THE MALDIVES 82, 88 (2005), available at <http://www.nda.ac.jp/~fujima/maldives-pdf/>.

the Maldives' most significant recent projects was the completion of an artificial island called Hulhumalé within waters under its sovereign control.²¹ Hulhumalé is intended to serve as the Maldives' "modern Noah's Ark" in the event its 202 populated atolls should be lost to the rising waters.²²

The artificial island of Hulhumalé may be the Maldives' best attempt at maintaining both its statehood and its maritime zones.²³ Unfortunately, the United Nations Convention on the Law of the Sea ("LOSC"), which regulates the legal status of artificial islands, is currently at odds with at least the latter proposition. Under the LOSC, islands may generate maritime zones,²⁴ but the Convention's rules governing islands effectively exclude artificial islands from the definition of an island, which requires that the land be "naturally formed."²⁵ Considering that the LOSC was intended from its inception to be a "constitution of the oceans,"²⁶ the Maldives should advocate for a new rule to give effect to artificial islands statehood, and effect to them under the Convention in light of the impacts of sea level rise on maritime zones.²⁷

This article proposes and frames a potential amendment to the LOSC to allow small island states, such as the Maldives, to endorse

21. See generally FUJIMA ET AL., *supra* note 20, at 69 (discussing how Hulhumalé is located atop a shallow reef between the North Malé Atoll and South Malé Atoll).

22. Uli Schmetzer, *The Rising Ocean Threatens to Sink Low-Lying Maldives*, SEATTLE TIMES, Feb. 27, 2000, at A12. Measuring 465 acres, Hulhumalé can accommodate around 150,000 people. Matthew Rosenberg, *Dreams for Island Swept out to Sea: Few Willing to Live in 'Ugly' Maldives Spot*, CHI. TRIB., Feb. 10, 2008, at 16.

23. See Patrick Barta, *Apathy Sinks Maldives Island*, AUSTRALIAN, Jan. 12, 2008, at 33 (discussing how Hulhumalé is intended to be a solution to global warming); Benjamin Joffe-Walt, *Future of the Maldives Emerges From the Waves As Rising Waters Threaten the Tourist Archipelago Beloved by Britons, a Man-Made Island is Rising From a Reef*, SUNDAY TELEGRAPH (LONDON), Aug. 22, 2004 (mentioning that Hulhumalé is intended to act as a long-term solution to sea level rise in the Maldives).

24. LOSC, *supra* note 11, art. 121(1)-(2).

25. Francesca Galea, *Artificial Islands in the Law of the Sea 19* (May 2009) (unpublished Doctor of Laws dissertation, University of Malta) (on file with the Seasteading Institute), available at http://www.seasteading.org/files/research/law/ARTIFICIAL_ISLANDS_-_01.09.09_mod.doc.pdf.

26. Jon M. Van Dyke, *A Constitution for the Oceans: A Closer Look at the United Nations Law of the Sea Convention*, 6 INSIGHTS ON LAW & SOC'Y 1, 1 (2006), available at http://www.abanet.org/publiced/insights/vol6_3/nosearch/constitution_Insightspring06.pdf.

27. See Tsaltas Grigoris et al., *Artificial Islands and Structures as a Means of Safeguarding State Sovereignty Against Sea Level Rise: A Law of the Sea Perspective 15-17* (unpublished manuscript) (on file with the University of New South Wales), available at <http://www.gmat.unsw.edu.au/ablos/ABLOS10Folder/S2P3-P.pdf> (advocating that the legal regime of artificial islands be expanded).

artificial islands as “defined territory” in order to save their statehood and maritime zones. This Article introduces the problem of sea level rise in the Maldives in Part II. It then closely analyzes, in Parts III and IV respectively, the ability of a small island state to legally maintain its statehood and maritime zones in the event of inundation by sea level rise. In Part V, the Article examines the current legal regime governing islands in the LOSC to determine whether the construction of an artificial island, such as Hulhumalé, may be used to overcome the potential loss of statehood and maritime zones. Analyzing the relevant provisions of the LOSC, the Article opines in this section that the current legal regime of islands is insufficient to address this contemporary use of artificial islands. Therefore, the latter half of Part V proposes and frames a potential amendment to the LOSC to explicitly allow the construction of artificial islands to maintain the statehood and maritime zones of disappearing island states.²⁸ The Article concludes with a brief discussion of the practical impediments to constructing artificial islands for these purposes. Prior to examining these legal issues and potential solutions under international law, however, a discussion of global warming’s impacts on the Maldives, and why this small island state would even consider tackling such a financially costly project like Hulhumalé, is warranted.

II. THE MALDIVES AND CLIMATE CHANGE

The Republic of the Maldives is comprised of twenty-six major atolls and 1,190 very small islands southwest of Sri Lanka in the Indian Ocean.²⁹ The largest island is no larger than 2.5 square kilometers, and the islands themselves are generally comprised of coral or sandbanks.³⁰

28. See Cleo Paskal, *Strange Case of the Disappearing Islands*, N.Z. HERALD, Apr. 3, 2010, available at http://www.nzherald.co.nz/world/news/article.cfm?c_id=2&objectid=10635956 (discussing how the starting point to resolving the issues surrounding submerging island states is the LOSC, and discussing how artificial islands might be used to resolve the issues of statehood being lost and the rights that attach to that status).

29. *Maldives: An Overview*, S. ASIA REG’L INITIATIVE FOR ENERGY, http://www.sari-energy.org/PageFiles/Countries/maldives_Energy_detail.asp (last visited Oct. 4, 2011); *Introduction*, PERMANENT MISSION OF THE REPUBLIC OF THE MALDIVES TO THE UNITED NATIONS OFFICE AT GENEVA <http://www.maldivesmission.ch/index.php?id=9> (last visited Oct. 4, 2011). An atoll is “a ring-shaped reef with or without an island situated on it surrounded by the open sea, that encloses or nearly encloses a lagoon.” U.N. OFFICE FOR OCEAN AFFAIRS & THE LAW OF THE SEA, *THE LAW OF THE SEA: BASELINES*, at 50, U.N. Sales No. E.88.V.5 (1989).

30. MOHAMED MUNAVVAR, *OCEAN STATES: ARCHIPELAGIC REGIMES IN THE LAW OF THE SEA* 21 (1995).

The highest elevation of any of these islands is only 1.5 meters above sea level.³¹ This average elevation has earned the Maldives a reputation as the world's flattest state.³²

Unfortunately, this status does not present any long-term benefits for the Maldives. For example, in late December 2004, the underwater eruption of the strongest earthquake in four decades off the coast of Sumatra, Indonesia, triggered a forty-foot high tsunami, which ravaged much of southern Asia, killing more than 13,000 people across twelve states.³³ The tsunami had a profound impact on the Maldives, where the large wave temporarily submerged an estimated forty percent of the Maldives' land mass, killed eighty-two people, and destroyed the homes of some 15,000 Maldivians.³⁴ The tsunami virtually eliminated the basic infrastructure of many inhabited islands.³⁵

Moreover, scientists believe that climate change is occurring.³⁶ In 2007, the IPCC concluded with "very high confidence" that "[s]mall islands, whether located in the tropics or higher latitudes, have characteristics which make them especially vulnerable to the effects of climate change, sea-level rise, and extreme events."³⁷ One effect of climate change is that as the Earth warms up, more intense weather patterns are expected, including stronger cyclones.³⁸ However, another by-product of climate change is a rise in sea levels worldwide.³⁹ The main processes contributing to sea level rise include the expansion of ocean water as temperatures increase, ice caps and glaciers melting, and

31. *Id.*

32. Lucy Siebert, *The Maldives Going Flat Out on Tourism*, MSNBC, Mar. 3, 2008, <http://www.msnbc.msn.com/id/23450642/> (last visited Oct. 4, 2011).

33. Amy Waldman, *Asia's Deadly Waves: Disaster; Thousands Die as Quake-Spawmed Waves Crash Onto Coastlines Across Southern Asia*, N.Y. TIMES, Dec. 27, 2004, at A1.

34. Scott Lamb, *Paradise (Soon to be) Lost*, SPIEGEL ONLINE, Feb. 15, 2005, <http://www.spiegel.de/international/0,1518,341669,00.html> (last visited Oct. 4, 2011).

35. Clare Masters, *Australia Will Clean Maldives*, SUNDAY TELEGRAPH (Austl.), May 29, 2005, at 44.

36. See *Climate Change*, CLIMATE INSTITUTE, <http://www.climate.org/topics/climate-change/index.html> (last visited Oct. 4, 2011).

37. Nobou Mimura et al., *Small Islands*, in CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 687, 689 (M.L. Parry et al. eds., 2007) [hereinafter *IPCC Working Group II Report*].

38. *Id.* at 695.

39. Gerald A. Meehl, et. al., *Global Climate Projections*, in CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 812 (S. Solomon et al. eds., 2007) (discussing how as temperatures of sea water increase, the water expands, which contributes to an increase in volume of the world's oceans and a thermosteric sea level rise).

Greenland and Antarctica losing their ice masses.⁴⁰ With regard to small islands, the IPCC has indicated with “very high confidence” that “[s]ea-level rise is expected to exacerbate inundation, storm surge, erosion, and other coastal hazards, thus threatening vital infrastructure, settlements, and facilities that support the livelihood of island communities.”⁴¹ Even more alarming, the land-masses of islands could dwindle due to elevated sea levels.⁴²

For the Maldives specifically, the IPCC is convinced that a dependable estimate of sea level rise is 50 centimeters by 2100.⁴³ However, a one-meter rise in sea levels in the coming centuries would mean the Maldives, as a state, will totally vanish.⁴⁴ The Maldives is already plagued by significant island erosion.⁴⁵ Some nationals have been moved to more protected islands in the face of these continued threats.⁴⁶

In 1987, former Maldives President Abdul Gayoom spoke in the UN General Assembly and stated that sea level rise would lead to “the death of a nation.”⁴⁷ Two years later, the Maldives held a meeting of small island states to highlight their shared fears of climate change, and ultimately called for industrialized states to reduce greenhouse gas emissions.⁴⁸ These small island state attendees later formed the Association of Small Island States to consolidate their individual

40. *Climate Change & Sea Level Rise: Consequences of Climate Change on the Oceans*, CLIMATE INSTITUTE, <http://www.climate.org/topics/sea-level/index.html> (last visited Oct. 4, 2011).

41. IPCC Working Group II Report, *supra* note 37, at 689.

42. *Id.*

43. *Id.* at 694.

44. SECRETARIAT OF THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE IN SMALL ISLAND DEVELOPING STATES 16 (2007), *available at* http://unfccc.int/files/adaptation/adverse_effects_and_response_measures_art_48/application/pdf/200702_sids_adaptation_bg.pdf.

45. His Excellency Mr. Maumoon Abdul Gayoom, President, Republic of the Maldives, Address at the Opening of the Joint High-level Segment of the 13th Session of the Conference of Parties of the UNFCCC and the 3rd Session of the Meeting of the Parties to the Kyoto Protocol (Dec. 12, 2007), *available at* http://www.maldivesmission.ch/fileadmin/Pdf/Environment/President_at_Bali_Conference_2012122007_final_.pdf.

46. *Id.*; Joffe-Walt, *supra* note 23 (discussing how three islands have been evacuated).

47. R.K. Pachauri, Chairman, Intergovernmental Panel on Climate Change, Acceptance Speech for the Nobel Peace Prize Awarded to the Intergovernmental Panel on Climate Change, 11 (Dec. 10, 2007), *available at* <http://www.ipcc.ch/graphics/speeches/nobel-peace-prize-oslo-10-december-2007.pdf>.

48. Knox, *supra* note 9, at 481 (citing James Lewis, *Small States Conference on Sea Level Rise*, 10(2) ENVIRONMENTALIST 141, 141-2 (1990)).

demands for lower greenhouse gas emissions.⁴⁹

More significantly, the Maldives has planned adaptation measures in a long-term effort to save itself from extinction.⁵⁰ Short-term plans include potentially moving all occupants onto a few large islands as part of the "Safe Islands" project, and building up some existing islands to a higher elevation.⁵¹ The "Great Wall of Malé," a concrete sea wall surrounding the one-square mile capital island of Malé, which stands six feet tall, was also constructed to mitigate the effects of flooding.⁵² Long-term plans include establishing an investment fund for the purchase of new land, perhaps in nearby India or Sri Lanka, for the possible future relocation of the Maldivian people.⁵³

However, current President Nasheed may not have to move his people at all because one of the most significant projects the Maldives has undertaken is the construction of an artificial island called Hulhumalé, through a massive land-reclamation undertaking.⁵⁴ The resulting artificial island is roughly the size of Malé, but stands one meter higher than that island.⁵⁵ The immediate goals for Hulhumalé include remedying the intense population congestion in nearby Malé, while, at the same time, helping the Maldives' fisheries and tourism industries grow.⁵⁶ In the long term, it is hoped that "the island will be transformed into a progressive world class city where 60,000 people will live, work and raise their families."⁵⁷

These are certainly valid priorities for the Maldives with regard to Hulhumalé. However, a greater priority for the Maldives should be to advocate for Hulhumalé as the ideal long-term solution to maintaining that state's maritime zones and statehood status.⁵⁸ The Maldives already

49. Knox, *supra* note 9, at 481; ASSOCIATION OF SMALL ISLAND STATES, <http://aosis/info> (last visited Oct. 4, 2011).

50. Cameron, *supra* note 19, at 7.

51. Lamb, *supra* note 34.

52. Schmetzer, *supra* note 22, at A12; Andrew C. Revkin, *Maldives Considers Buying Dry Land if Seas Rise*, N.Y. TIMES, Nov. 11, 2008, at A10.

53. Revkin, *supra* note 52, at A10.

54. *Introduction to Hulhumalé, Maldives*, HOUSING DEVELOPMENT CORPORATION, <http://www.hdc.com.mv/development/introduction.php> (last visited Oct. 4, 2011) [hereinafter *Hulhumalé Background*].

55. *Maldives – Hulhumalé*, DEME: DREDGING, ENVIRONMENTAL & MARINE ENGINEERING, http://www.deme.be/Projects/maldives_hulhumale.html (last visited Feb. 8, 2011) [hereinafter *DEME Report*].

56. *Hulhumalé Background*, *supra* note 54.

57. MALDIVES HOUSING DEVELOPMENT CORPORATION, INVITATION FOR EXPRESSIONS OF INTEREST FOR THE LEASE AND DEVELOPMENT OF A MARINA INCLUSIVE OF HOTEL IN HULHUMALÉ LAGOON (2009), *available at* <http://www.investmaldives.org/mediacenter/documents/EOI.HDC.Marina.pdf>.

58. *See generally* Tsaltas et al., *supra* note 27, at 4, 6 (calling for a more robust

appears well aware of the artificial island's potential use as a safe haven against climate change. In fact, many nationals from other islands affected by the 2004 tsunami were relocated to the island.⁵⁹ However, whether the artificial island of Hulhumalé may satisfy the elements of statehood, and bear maritime zones—in the event that the rest of the Maldives' territory is lost to sea level rise—first requires an analysis of the relevant legal rules regarding statehood and the attribution of maritime zones.

III. CLIMATE CHANGE, TERRITORY, AND STATEHOOD

A. *Statehood, Defined*

In order to properly discuss how a sea level rise may extinguish the statehood of small island states, it is important to first understand how states are created and what their legal status entails. The principal legal entity subject to international law is the state.⁶⁰ International law itself is traditionally described as a body of mutual obligations created through state consent.⁶¹ The concept of statehood is of paramount importance under international law because being a state gives rise to a bundle of rights and duties at the global level.⁶² If the state borders a coast, a very significant right is the ability to declare maritime zones.⁶³

However, what constitutes 'statehood' is a difficult question to answer because there is no agreed-upon legal characterization of statehood under international law.⁶⁴ Defining statehood may be difficult

legal framework with regard to artificial islands that takes into consideration climate change).

59. See *Resettling Displaced Vilufushi Islanders in Vilufushi Begins*, MIADHU NEWS, May 17, 2009, <http://www.miadhu.com/2009/05/local-news/resettling-displaced-vilufushi-islanders-in-begins-10150/> (last visited Oct. 4, 2011).

60. Samantha Besson, *The Authority of International Law – Lifting the State Veil*, 31 SYDNEY L. REV. 343, 360 (2009); Y.A. KOROVIN ET AL., INTERNATIONAL LAW 133 (1951).

61. John Cerone, *Much Ado About Non-State Actors: The Vanishing Relevance of State Affiliation in International Criminal Law*, 10 SAN DIEGO INT'L L.J. 335, 337 (2009).

62. Martti Koskenniemi, *The Future of Statehood*, 32 HARV. INT'L L.J. 397, 408 (1991).

63. See generally Geoffrey Marston, *The Stability of Land and Sea Boundary Delimitations in International Law*, in MARITIME BOUNDARIES 144, 152 (Gerald H. Blake, ed., 1994) (discussing how "the maritime area is not jurisdictionally homogenous and contains areas under coastal state sovereignty").

64. MICHAEL SCHOISWOHL, STATUS AND (HUMAN RIGHTS) OBLIGATIONS OF NON-RECOGNIZED *DE FACTO* REGIMES IN INTERNATIONAL LAW: THE CASE OF 'SOMALILAND' 11 (2004).

because the elements of statehood have not only evolved throughout history, but are also affected by the circumstances of the entity claiming to be a state.⁶⁵ In international law, two competing theories of what constitutes a state have emerged: the constitutive and declaratory theories.⁶⁶

The constitutive theory of statehood encompasses the idea that the emergence of a new state is dependent on its recognition by other states.⁶⁷ That is, existing states have a certain level of discretion in allowing a state to come into being.⁶⁸ The constitutive theory has been criticized as “lead[ing] to extreme subjectivity in the notion of the state, effectively destroying that which it seeks to define.”⁶⁹ Conversely, under the declaratory theory, statehood is imputed automatically once the entity meets the elements of statehood, and recognition is not truly necessary as it “merely declares the existence of that fact.”⁷⁰ However, the declaratory theory presupposes that there are concrete characteristics of statehood, which in practice has proven to be a difficult and highly politicized exercise.⁷¹

The declaratory theory appears to be the dominant view regarding statehood.⁷² In fact, the declaratory theory is enshrined in the Montevideo Convention on the Rights and Duties of States (“Montevideo Convention”),⁷³ which contains “the most widely accepted formulation of the criteria of statehood in international law.”⁷⁴ Meanwhile, the constitutive theory of statehood is discarded through

65. Thomas D. Grant, *Defining Statehood: The Montevideo Convention and its Discontents*, 37 COLUM. J. TRANSNAT'L L. 403, 408 (1999).

66. Johan D. Van Der Vyver, *Self-Determination of the Peoples of Quebec Under International Law*, 10 J. TRANSNAT'L L. & POL'Y 1, 2 (2000).

67. Robert J. Delahunty & John Yoo, *Statehood and the Third Geneva Convention*, 46 VA. J. INT'L L. 131, 142 (2005).

68. William Thomas Worster, *Law, Politics, and the Conception of the State in State Recognition Theory*, 27 B.U. INT'L L.J. 115, 120 (2009).

69. James Crawford, *Israel (1948-1949) and Palestine (1998-1999): Two Studies in the Creation of States*, in THE REALITY OF INTERNATIONAL LAW: ESSAYS IN HONOUR OF IAN BROWNLIE 95, 114 (Guy S. Goodwin-Gill & Stefan Tallman eds., 1999).

70. H. LAUTERPACHT, *RECOGNITION IN INTERNATIONAL LAW* 41 (1947); *see also* THOMAS D. GRANT, *THE RECOGNITION OF STATES: LAW AND PRACTICE IN DEBATE AND EVOLUTION* 5 (1999).

71. GRANT, *supra* note 70, at 5.

72. Van Der Vyver, *supra* note 66, at 29; Worster, *supra* note 68, at 125 (arguing that the International Court of Justice has upheld the declaratory theory of statehood).

73. Robert D. Sloane, *The Changing Face of Recognition in International Law: A Case Study of Tibet*, 16 EMORY INT'L L. REV. 107, 115 (2002).

74. MALCOLM N. SHAW, *INTERNATIONAL LAW* 178 (5th ed. 2003); Montevideo Convention, *supra* note 16, at art. 1 (giving four criteria for the definition of statehood).

Article 3 of the Montevideo Convention.⁷⁵ It is worth mentioning that the Montevideo Convention is a regional agreement among the International Conference of American States but to date has merely nineteen signatories and sixteen states parties.⁷⁶ Nonetheless, the Montevideo criteria for statehood over time developed into a legal benchmark for determining whether an entity is considered a state, at least objectively,⁷⁷ and therefore may have the status of customary international law.⁷⁸ The definition of a state in Article 1 of the Montevideo Convention consists of four criteria: “a) a permanent population; b) a defined territory; c) government; and d) capacity to enter into relations with other states.”⁷⁹

Other legal commentators have effectively dealt with the population, government, and international relations requirements.⁸⁰

75. Montevideo Convention, *supra* note 16, art. 3 (“The political existence of the state is independent of recognition by the other states”); Delahunty & Yoo, *supra* note 67, at 142.

76. Organization of American States, Convention on Rights and Duties of States, Dec. 26, 1934, O.A.S.T.S. No. 37 available at <http://www.oas.org/juridico/english/signs/a-40.html> (last visited Feb. 8, 2011).

77. Grant, *supra* note 65, at 416; *see also* JAMES CRAWFORD, THE CREATION OF STATES IN INTERNATIONAL LAW 36 (1979) (“the best known formulation of the basic criteria for statehood is that laid down in Article 1 of the Montevideo Convention, 1933”).

78. SCHOISWOHL, *supra* note 64, at 12; *see, e.g.*, RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 201 cmt. a (1987) [hereinafter *Third Restatement of Foreign Relations Law*] (§ 201 indicates that “[u]nder international law, a state is an entity that has a defined territory and a permanent population, under the control of its own government, and that engages in, or has the capacity to engage in, formal relations with other such entities” of which the enumeration of these elements is “well-established in international law; it is nearly identical to that in Article 1 of the Montevideo Convention on the Rights and Duties of States”).

79. Montevideo Convention, *supra* note 16, art. 1.

80. *See, e.g.*, MICHAEL ROSS FOWLER & JULIE MARIE BUNCK, LAW, POWER, AND THE SOVEREIGN STATE: THE EVOLUTION AND APPLICATION OF THE CONCEPT OF SOVEREIGNTY 35 (1995) (discussing how the population requirement need not satisfy a particular size and how the government requirement does not require a particular type of government); Third Restatement of Foreign Relations Law, *supra* note 78, at § 201 cmt. d (in the context of the government requirement, “[a] state need not have any particular form of government, but there must be some authority exercising governmental functions and able to represent the entity in international relations”); CRAWFORD, *supra* note 77, at 47-48 (discussing how the capacity to enter into relations with other states requirement is closely intertwined with the government requirement, because the government must have the competence to act on the international plane); Milena Sterio, *On the Right to External Self-Determination: “Selfistans,” Secession, and the Great Powers’ Rule*, 19 MINN. J. INT’L L. 137, 150 (2010) (citing JEFFREY L. DUNOFF ET AL., INTERNATIONAL LAW: NORMS, ACTORS, PROCESSES 138 (2d ed. 2006)) (discussing how the constitutive theory of statehood may still be relevant to the foreign relations element “because an entity claiming to be a state cannot conduct international relations with other states unless those states are willing to enter into such relations”).

While these criteria are certainly still relevant to the question of statehood,⁸¹ this article is primarily concerned with the construction of artificial islands to replace lost territory, for which the “defined territory” element deserves the greatest attention.

The territory element has been construed broadly under international law.⁸² Preliminarily, a state requires a territorial foundation from which it can assert itself, given that a state is in essence a “territorial entit[y].”⁸³ However, there is considerable flexibility in the size requirement for a territory to be considered a state.⁸⁴ For example, Canada has a land-mass of 9,984,670 square kilometers,⁸⁵ while the Maldives land mass is a mere 298 square kilometers.⁸⁶

Unfixed borders, and even boundary disputes, will not defeat the defined territory requirement.⁸⁷ As early as 1929, a German-Polish Mixed Arbitral Tribunal stated that, “[i]n order to say that a State exists . . . it is enough that this territory has a sufficient consistency, even though its boundaries have not yet been accurately delimited.”⁸⁸ The International Court of Justice reiterated this point in the *North Sea Continental Shelf Cases* in 1969, stating that there is “no rule that the land frontiers of a State must be fully delimited and defined, and often in various places and for long periods they are not.”⁸⁹ Nonetheless, a territory must be adequately recognized and controlled regularly by an entity to qualify for statehood.⁹⁰

81. Montevideo Convention, *supra* note 16, at art. 1; *see* MIKULAS FABRY, *RECOGNIZING STATES: INTERNATIONAL SOCIETY AND THE ESTABLISHMENT OF NEW STATES SINCE 1776* 2 (2010) (mentioning that an entity becomes a state so long as it meets each element, at least under the declaratory theory).

82. Omar M. Dajani, *Stalled Between Seasons: The International Legal Status of Palestine During the Interim Period*, 26 *DENV. J. INT'L L. & POL'Y* 27, 82 (1997).

83. Justus Reid Weiner & Diane Morrison, *Legal Implications of 'Safe Passage' Reconciling a Viable Palestinian State with Israel's Security Requirements*, 22 *CONN. J. INT'L L.* 233, 246 (2007).

84. *Id.*

85. *Canada*, *World Factbook*, CENTRAL INTELLIGENCE AGENCY, <https://www.cia.gov/library/publications/the-world-factbook/geos/ca.html> (last visited Feb. 8, 2011).

86. *Maldives*, *World Factbook*, CENTRAL INTELLIGENCE AGENCY, <https://www.cia.gov/library/publications/the-world-factbook/geos/mv.html> (last visited Feb. 8, 2011).

87. *North Sea Continental Shelf (Ger. v. Den.; Ger. v. Neth.)*, 1969 *I.C.J.* 3, 33 (Feb. 20); CRAWFORD, *supra* note 77, at 38.

88. CRAWFORD, *supra* note 77, at 38 (quoting *Duetsche Continental Gas-Gesellschaft v. Polish State*, 5 *A.D.* No. 5, 14-15 (1929)).

89. *North Sea Continental Shelf*, *supra* note 87, at 32.

90. PETER MALANCZUK, *AKEHURST'S MODERN INTRODUCTION TO INTERNATIONAL LAW* 76 (1997).

It has been argued that the four Montevideo criteria are not the only relevant considerations for statehood, and that additional requirements must be met.⁹¹ Nonetheless, the notion of territory remains a vital element, regardless of what other elements may be necessary.⁹² While it is at least arguable that a defined territory is absolutely necessary to create a state, the status of an existing state that has lost its territory, particularly to rising sea levels, is less clear.⁹³

B. Potential Loss of Statehood Through Submergence of a State

An open question under international law is whether the loss of a state's entire land mass due to rising sea levels means that the entity ceases to be a state.⁹⁴ As discussed above, to become a state, an entity must possess a defined territory.⁹⁵ However, the Montevideo Convention's definition of a state does not discuss the requirements for a state to continue to exist once it comes into being.⁹⁶ Moreover, it has been argued that "a state is not necessarily extinguished by substantial changes in territory, population, government, or even, in some cases, by a combination of all three."⁹⁷

Nonetheless, it appears that many in the international community believe that the permanent submergence of an island state means that it ceases to exist as a state.⁹⁸ The UN High Commissioner for Refugees

91. See, e.g., Angeline G. Chen, *Taiwan's International Personality: Crossing the River by Feeling the Stones*, 20 LOY. L.A. INT'L & COMP. L.J. 223, 237-40 (1998) (sovereignty of the government, state responsibility, membership in various international organizations, and even power in trade and economics); see also KOROVIN ET AL., *supra* note 60, at 118 (recognition of the state by other states); Nii Lante Wallace-Bruce, *Taiwan and Somalia: International Legal Curiosities*, 22 QUEEN'S L.J. 453, 466 (1997) (independence).

92. SHAW, *supra* note 74, at 178; UNHCR Report, *supra* note 16, at 1.

93. Yamamoto & Esteban, *supra* note 16, at 1 (discussing how not much attention has been paid to whether a submerged island state may continue to exercise sovereignty over its submerged lands).

94. See Stahl, *supra* note 15, at 29-30 (discussing the lack of clarity on the statehood of submerged island states due to sea level rise).

95. Montevideo Convention, *supra* note 16, at 25 art. I; LAUTERPACHT, *supra* note 70, at 30 ("The possession of territory is . . . a regular requirement of statehood"); Duke E.E. Pollard, *International Law and Protection of Small Caricom States*, CARICOM PERSP., 1966, at 4, available at <http://www.caribbeancourtjustice.org/speeches/pollard/03Intl%20Law%20the%20Protection%20of%20Small%20States.pdf>.

96. CHIARA GIORGETTI, A PRINCIPLED APPROACH TO STATE FAILURE: INTERNATIONAL COMMUNITY ACTIONS IN EMERGENCY SITUATIONS 65-66 (2010).

97. CRAWFORD, *supra* note 77, at 417.

98. See, e.g., UNHCR Report, *supra* note 16, at 1-2; G.A. Res. 63/213, *supra* note

presumes that a state would not cease to exist if its entire territory is temporarily disappeared or if for a limited period of time its government is exiled, but if “the entire territory of a State [is] permanently submerged, inevitably there could be no permanent population attached to it or a government in control of it.”⁹⁹ The UN General Assembly has similarly expressed concerns about the threat of sea level rise to the status of small island states.¹⁰⁰ Specially affected island states themselves share these views circulating among the UN.¹⁰¹

It is important to note that to date no state has been completely swallowed up by the sea, and, therefore, the true answer to whether an entity retains statehood status in such a situation has yet to be confirmed.¹⁰² Additionally, some entities lacking a territory continue to enjoy sovereign recognition by other states, such as the Royal Order of Malta, which lost sovereignty over the Maltese islands in 1798, and today merely occupies a few structures in Rome.¹⁰³ However, the Royal

16; Nauru Report, *supra* note 16, at 10 (discussing how states will be wiped off the face of the earth by rising sea levels).

99. UNHCR Report, *supra* note 16, at 1-2.

100. *See, e.g.*, G.A. Res. 63/213, *supra* note 16 (“[T]he adverse effects of climate change and sea-level rise present significant risks to the sustainable development of small island developing States, that the effects of climate change may threaten the very existence of some of them and that adaptation to the adverse effects of climate change and sea-level rise therefore remains a major priority for small island developing States”); *see also* G.A. Res. 63/281, U.N. Doc. A/RES/63/281 (Jun. 11, 2009) (“[D]eeply concerned that the adverse impacts of climate change, including sea level rise, could have possible security implications”).

101. Nauru Report, *supra* note 16, at 10 (mentioning how sea level rise will “eliminate whole islands and even nations”); TUVALU’S VIEWS ON THE POSSIBLE SECURITY IMPLICATIONS OF CLIMATE CHANGE TO BE INCLUDED IN THE REPORT OF THE UN SECRETARY GENERAL TO THE UN GENERAL ASSEMBLY 64TH SESSION 3 (2009), *available at* http://www.un.org/esa/dsd/resources/res_pdfs/ga-64/cc-inputs/Tuvalu_CCIS.pdf (Tuvalu fears its sovereignty will be submerged when its land mass is submerged); *see also* FEDERATED STATES OF MICRONESIA, VIEWS ON THE POSSIBLE SECURITY IMPLICATIONS OF CLIMATE CHANGE TO BE INCLUDED IN THE REPORT OF THE SECRETARY-GENERAL TO THE 64TH SESSION OF THE UNITED NATIONS GENERAL ASSEMBLY 7 (2009), *available at* http://www.un.org/esa/dsd/resources/res_pdfs/ga-64/cc-inputs/Micronesia_CCIS.pdf (pointing out that once Micronesia’s land mass is submerged, its nationals will be forever prevented from going home to their state).

102. UNHCR Report, *supra* note 16, at 1-2; Lisa Friedman, *If a Country Sinks Beneath the Sea, is it Still a Country?*, SCI. AM., (Aug. 23, 2010), <http://www.scientificamerican.com/article.cfm?id=if-a-country-sinks-beneath-the-sea-is-it-still-a-country> (“[U]ntil recently, the notion of a country’s extinction has been largely theoretical.”).

103. John Alan Cohan, *Sovereignty in a Postsovereign World*, 18 FLA. J. INT’L L. 907, 928-29 (2006); David Freestone & John Pethick, *Sea Level Rise and Maritime Boundaries: International Implications of Impacts and Responses*, in WORLD BOUNDARIES VOL. 5: MARITIME BOUNDARIES 73, 80 (Gerald H. Blake ed. 1994).

Order still enjoys continued recognition by some sixty states and has embassies in fifty-nine of them.¹⁰⁴ This indicates that a state submerged by sea level rise may assume the role of a *sui generis* international entity and continue its existence so long as other states choose to continue recognizing it.¹⁰⁵

In light of these considerations, this article may only presume for the sake of later arguments, but not definitively conclude, that the permanent loss of a state's entire land territory to rising sea levels means that it ceases to meet the criteria for statehood.¹⁰⁶ In such an event, loss of statehood may have drastic consequences.¹⁰⁷ One of the most significant consequences for small island states specifically under the LOSC, which is a large focus of this article, is the loss of maritime zones.¹⁰⁸

IV. CLIMATE CHANGE, TERRITORY, AND MARITIME ZONES

In addition to the potential loss of statehood, the potential loss of maritime zones poses another significant legal issue relating to the submersion of a small island state.¹⁰⁹ After all, a state has the right under international law to not only exercise sovereignty within its borders,¹¹⁰ but also to exercise varying forms of jurisdiction over the waters seaward of its shores.¹¹¹ The principal international convention regulating these waters is the LOSC.¹¹² The Maldives became a state party to the LOSC

104. Cohan, *supra* note 103, at 928-29.

105. Freestone & Pethick, *supra* note 103, at 80.

106. See Yamamoto & Esteban, *supra* note 16, at 4 (pondering “[W]hether a State can continue to exist if the second element that constitutes it (i.e. its territory) disappears”); see Caron 1990, *supra* note 17, at 650 (postulating that a state's continued existence may be questioned if sea levels rise sufficiently enough to inundate its territory); DAVID ANDERSON, MODERN LAW OF THE SEA: SELECTED ESSAYS 383 (2008); Freestone & Pethick, *supra* note 103, at 79-80.

107. Maas & Carius, *supra* note 17, at 8.

108. Rayfuse, *supra* note 17, at 6 (“[O]nly states are entitled to declare maritime zones. Thus, the existence of maritime zones depends on the existence of a state.”).

109. *Id.*; see also Jonathan Lusthaus, *Shifting Sands: Sea Level Rise, Maritime Boundaries and Inter-State Conflict*, 30 POLITICS 113, 114 (2010), available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9256.2010.01374.x/pdf>.

110. Cohan, *supra* note 103, at 916.

111. See LOSC, *supra* note 11, at art. 2, 33, 57, 76; see also Dr. Barry Hart Dubner, *The Spratly “Rocks” Dispute—A “Rockapelago” Defies Norms of International Law*, 9 TEMP. INT'L & COMP. L.J. 291, 296 (1995) (discussing how the scope of maritime jurisdiction decreases further out to sea).

112. See, e.g., LOSC, *supra* note 11, at art. 3; Chronological List of Ratifications of,

on September 7, 2000.¹¹³ The LOSC divides seaward waters into four maritime zones: the continental shelf, the exclusive economic zone (EEZ), the contiguous zone, and the territorial sea.¹¹⁴ The right to claim a territorial sea, contiguous zone, EEZ, and continental shelf also extends to islands.¹¹⁵

Maritime zones are very important economically to coastal states, because they enjoy various sovereign rights over the natural resources found in those areas.¹¹⁶ Small island states tend to have limited land-based resources, and thus their maritime zones are economically indispensable, especially considering fisheries comprise one of their only genuinely sustainable resources.¹¹⁷ For the Maldives, seventy percent of its Gross Domestic Product is attributable to its bustling tourism businesses; but the second largest industry, accounting for another ten percent, is fisheries.¹¹⁸

However, the method through which these maritime zones are determined uses the state's coastline as a critical part of the calculation, meaning that the rightful claims of states over maritime zones measured from these points will be challengeable if the coastal baseline changes due to erosion from sea level rise.¹¹⁹ By consequence, if an island becomes completely submerged, it loses its privileges over its former

Accessions and Successions to the Law of the Sea Convention and the Related Agreements, U.N., http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm#The%20United%20Nations%20Convention%20on%20the%20Law%20of%20the%20Sea (last visited Feb. 8, 2011) [hereinafter *Chronological List of Ratifications*] (the Maldives became a state party to the LOSC on September 7, 2000).

113. Chronological List of Ratifications, *supra* note 112.

114. LOSC, *supra* note 11, at art. 2, 33, 57, 76; Yamamoto & Esteban, *supra* note 16, at 4.

115. LOSC, *supra* note 11, at art. 121(2).

116. *See, e.g., id.* art. 56(1)(a) ("In the exclusive economic zone, the coastal State has . . . sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or nonliving"); Yamamoto & Esteban, *supra* note 16, at 4.

117. *See* Tuiloma Neroni Slade, *The Making of International Law: The Role of Small Island States*, 17 TEMP. INT'L & COMP. L.J. 531, 535 (2003).

118. S. ASIA REG'L INITIATIVE FOR ENERGY, *supra* note 29.; *see also* *Background Paper from the Maldives Ministry of Housing, TRANSPORT AND ENVIRONMENT TO THE MALDIVES PARTNERSHIP FORUM 1* (Mar. 23-24, 2009), *available at* <http://www.maldivespartnershipforum.gov.mv/pdf/Adaptation%20to%20Climate%20Change.pdf> (discussing fisheries and tourism as the greatest contributors to the Maldivian economy).

119. Freestone & Pethick, *supra* note 103, at 74; *see also* W. MICHAEL REISMAN & GAYL S. WESTERMAN, STRAIGHT BASELINES IN MARITIME BOUNDARY DELIMITATION 4 (1992) (discussing how baselines need constant revision due to natural forces which can erode and build up a coast).

maritime zones.¹²⁰ In order to effectively discuss this phenomenon, it is first critical to understand how maritime zones are calculated under the LOSC.

A. Calculation of Maritime Zones Under the LOSC

Under the LOSC, state parties are obliged to calculate the geographic breadth of each maritime zone through a sometimes elaborate measuring process contained in the Convention, which generally uses the state's coast as a baseline for the measurements.¹²¹ Regarding the calculation of baselines, the LOSC's default rule is found in Article 5, which states that "the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State."¹²² The LOSC provides a variety of alternate rules for constructing baselines in certain circumstances, some of which are relevant to small island states.¹²³ For example, Article 6 allows a reef's "seaward low-water line" to be used as the baseline in the specific instance where the land mass happens to be a coral island or has a fringing reef.¹²⁴ In general, the waters on the landward side of the baseline are characterized as internal waters, in which the state exercises absolute sovereignty,¹²⁵ akin to sovereignty over its land mass.¹²⁶

Additionally, Article 47 enumerates an elaborate procedure for archipelagic states to draw their baselines.¹²⁷ In essence, this provision allows maritime zones to be measured from an archipelagic state's outermost points, which are connected by straight lines.¹²⁸ The Maldives uses this method to determine its maritime zones.¹²⁹ In the case of

120. See Rayfuse, *supra* note 17, at 4.

121. J. Ashley Roach, *The Maritime Claims Reference Manual and the Law of Baselines*, 72 INT'L STUD. SER. US NAVAL WAR COL. 181, 182 (1998); see, e.g., LOSC, *supra* note 11, at art. 5 (discussing calculation of the territorial sea using a baseline).

122. LOSC, *supra* note 11, at art. 5; see also SHAW, *supra* note 74, at 495 (This rule has the status of customary international law).

123. See, e.g., LOSC, *supra* note 11, at art. 6, 7, 9, 10, 13, 14, 47; UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982: A COMMENTARY VOL. II 88 (Myron H. Nordquist et al., eds. 1995); Rayfuse, *supra* note 17, at 3.

124. LOSC, *supra* note 11, at art. 6.

125. *Id.* at art. 2(1).

126. George K. Walker & John E. Noyes, *Definitions for the 1982 Law of the Sea Convention—Part II*, 33 CAL. W. INT'L L.J. 191, 264 (2003).

127. LOSC, *supra* note 11, at art. 47.

128. R. R. CHURCHILL & A. V. LOWE, *THE LAW OF THE SEA* 50 (3d ed. 1999).

129. Maritime Zones of Maldives Act No. 6/96, U.N. FOOD & AGRICULTURE ORGANIZATION, <http://faolex.fao.org/docs/pdf/mdv21767E.pdf> (last visited Feb. 8, 2011)

archipelagic states, if the state chooses to use this method for its baseline construction, then the waters landward of these baselines are called archipelagic waters and while the state has sovereignty over these waters, ships also have the right of innocent passage and sea-lane passage through them.¹³⁰

Regardless of the ultimate method employed, each maritime zone's geographic scope is calculated by measuring seaward from the same baseline.¹³¹ For instance, the territorial sea, in which the state may exercise sovereignty subject to the right of innocent passage of ships, cannot extend beyond twelve nautical miles from the baseline.¹³² The contiguous zone, where the state may exercise jurisdiction both to prevent and to penalize violations of its sanitary, immigration, customs, or fiscal laws, cannot extend beyond twenty-four nautical miles from the baseline.¹³³ The EEZ may not protract from the baseline more than 200 nautical miles.¹³⁴ States enjoy limited rights in their EEZs, including the ability to exploit living and non-living natural resources to the exclusion of other states.¹³⁵ Finally, the continental shelf "extend[s] beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance."¹³⁶ The coastal state may explore and exploit the natural resources found in the continental shelf to the exclusion of other states.¹³⁷

The Maldives currently claims twelve nautical miles of territorial sea, a twelve nautical mile contiguous zone, and a 200 nautical mile EEZ.¹³⁸ In July 2010, a continental shelf exceeding 200 nautical miles

[hereinafter *Maldives Maritime Zones Act*]; OFF. OF OCEANS AFF., BUREAU OF OCEANS AND INT'L ENVTL. AND SCI. AFF., DEPT. OF STATE, NO. 126, LIMITS IN THE SEAS: MALDIVES: MARITIME CLAIMS AND BOUNDARIES 2 (2005).

130. See LOSC, *supra* note 11, at art. 2(1), 49(1), 52(1), 53(2); Donald R. Rothwell, *Navigational Rights and Freedoms in the Asia Pacific Following Entry Into Force of the Law of the Sea Convention*, 35 VA. J. INT'L L. 587, 597 (1995).

131. LOSC, *supra* note 11, at art. 3, 33(2), 57, 76(1); *History of the Maritime Zones under International Law*, Office of Coast Survey, NATIONAL OCEANIC AND ATMOSPHERIC ADMIN., http://www.nauticalcharts.noaa.gov/staff/law_of_sea.html (last visited Feb. 8, 2011); Rayfuse, *supra* note 17, at 3.

132. LOSC, *supra* note 11, at art. 2-3, 17.

133. *Id.* at art. 33.

134. *Id.* at art. 57.

135. *Id.* at art. 56(1)(a).

136. *Id.* at art. 76(1).

137. *Id.* at art. 77(1).

138. Maldives Maritime Zones Act, *supra* note 128.

from the Maldives' archipelagic baselines was declared.¹³⁹ However, because the Maldives' expansive maritime zones are calculated by reference to its land territory,¹⁴⁰ those vast areas of ocean are currently at risk as sea levels continue to rise.¹⁴¹

B. Loss of Maritime Zones due to Sea Level Rise

As discussed above, the calculation of baselines and the very entitlement to maritime zones is premised on a state having sovereignty over a land mass bordering the seashore.¹⁴² Although the LOSC does not explicitly state whether baselines and maritime zones fluctuate due to coastal erosion, such as through sea level rise, legal scholars have interpreted the Convention to mean that baselines are ambulatory.¹⁴³ This means that as baselines change location as a result of human or natural forces, the outer limits of maritime zones fluctuate inward or outward, as the case may be.¹⁴⁴ This rule also might apply to drawing archipelagic baselines, which is the method the Maldives appears to use to calculate its zones¹⁴⁵ because when the former points used to form straight baselines are submerged, the coastal state has an obligation to update

139. *Maldives Submission to Extend the Continental Shelf*, MIADHU NEWS, Oct. 10, 2010, <http://www.miadhu.com/2010/10/local-news/maldives-submission-to-extend-the-continental-shelf/>.

140. See CHURCHILL & LOWE, *supra* note 128, at 50 (discussing how maritime zones of archipelagic states are measured from their outermost land points, which are connected by straight lines).

141. See David D. Caron, *Climate Change, Sea Level Rise and the Coming Uncertainty in Oceanic Boundaries: A Proposal to Avoid Conflict*, in MARITIME BOUNDARY DISPUTES, SETTLEMENT PROCESSES, AND THE LAW OF THE SEA 1, 9 (Seoung-Yong Hong & Jon M. Van Dyke eds., 2009) [hereinafter *Caron 2009*] (discussing how coastal baselines are ambulatory in the face of sea level rise).

142. PÅL JAKOB AASEN, THE LAW OF MARITIME DELIMITATION AND THE RUSSIAN-NORWEGIAN MARITIME BOUNDARY DISPUTE 4 (Fridtjov Nansen Institute 2010).

143. Caron 2009, *supra* note 141, at 9; Michael Barry, Inna Elema & Paul van der Molen, *Governing the North Sea in the Netherlands*, in ADMINISTERING MARINE SPACES: INTERNATIONAL ISSUES 64, 67 (International Federation of Surveyors 2006), available at <http://www.fig.net/pub/figpub/pub36/pub36.pdf>; Jonathan I. Charney, *Rocks that Cannot Sustain Human Habitation*, 93 AM. J. INT'L L. 863, 867-68 (1999); see also Hugo Ignacio Llanos, *Low-Tide Elevations: Reassessing their Impact on Maritime Delimitation*, 14 PACE INT'L L. REV. 255, 264 (2002) (discussing how climate change and resulting sea level rise may affect current low-tide elevation configurations, which will have impacts on maritime delimitation).

144. Caron 2009, *supra* note 141, at 9; Barry, Elema & van der Molen, *supra* note 143, at 67; Rayfuse, *supra* note 17, at 3-4.

145. Maldives Mar. Zones Act, *supra* note 128; OFF. OF OCEANS AFF., *supra* note 129, at 2.

these points.¹⁴⁶

Therefore, with regard to small island states, rising sea levels may transform a land mass that used to be an island into a mere rock,¹⁴⁷ extensively impacting the land mass's ability to generate maritime zones.¹⁴⁸ Under the LOSC, in contrast to islands, mere "[r]ocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf."¹⁴⁹ Therefore, if an island loses land mass to the point where it can no longer support human life, then it may not claim an EEZ or a continental shelf.¹⁵⁰ Thus, an island that becomes completely submerged cannot claim a territorial sea.¹⁵¹

Moreover, the LOSC only allows islands to claim maritime zones, such as a territorial sea, if they fit the definition of an island, which is "a naturally formed area of land, surrounded by water, which is *above water at high tide*."¹⁵² If the island declines to a low-tide elevation,¹⁵³ meaning land that is above water at low tide but submerged at high tide, it may still serve as a baseline point, but only if it is otherwise located within a territorial sea as measured from the state's mainland or another island.¹⁵⁴ This nexus would probably be difficult to satisfy if an island state's islands become submerged,¹⁵⁵ especially considering "[t]he law of the

146. Soons, *supra* note 18, at 219-20.

147. *Id.* at 218; Rayfuse, *supra* note 17, at 4.

148. Clive Schofield, *The Trouble with Islands: The Definition and Role of Islands and Rocks in Maritime Boundary Delimitation*, in *MARITIME BOUNDARY DISPUTES, SETTLEMENT PROCESSES, AND THE LAW OF THE SEA* 19, 25 (Seoung-Yong Hong & Jon M. Van Dyke eds., 2009).

149. LOSC, *supra* note 11, at art. 121(3).

150. Rayfuse, *supra* note 17, at 4; *see generally* Freestone & Pethick, *supra* note 103, at 76 (discussing how if an island is transformed into a rock because of sea level rise, it would lose its entitlement to previously established maritime zones); LOSC, *supra* note 11, at art. 121(3) (under this provision, a rock cannot claim a continental shelf or exclusive economic zone).

151. Rayfuse, *supra* note 17, at 4 (citing Soons, *supra* note 18, at 216-17).

152. LOSC, *supra* note 11, at art. 121(1)-(2) (emphasis added); Schofield, *supra* note 147, at 24-25 (explaining how a critical element of an island is that it must at high tide be above water, which distinguishes an island from other insular features, particularly regarding the ability to generate maritime zones).

153. *See generally* Freestone & Pethick, *supra* note 103, at 75 (discussing how islets, rocks, and other entities could be maintained artificially to stop them from eroding into low-tide elevations).

154. LOSC, *supra* note 11, at art. 13(1)-(2); CHURCHILL & LOWE, *supra* note 128, at 48.

155. *See* Jonas Attenhofer, *Baselines and Base Points: How the Case Law Withstands Rising Sea Levels and Melting Ice*, 1 *LOS REPORTS* 1, 5 (2010), available at <http://www.asil.org/losreports/LOSReportsVol12010w3Attenhofer.pdf>; CHURCHILL & LOWE, *supra* note 128, ("[w]here, however, a low-tide elevation (or former island) lies at

sea does not in these circumstances allow application of the so-called ‘leapfrogging’ method” for low-tide elevations outside the territorial sea.¹⁵⁶ Therefore, in the end, these former maritime zones become by default either part of a neighboring state’s maritime claims, or part of the high seas,¹⁵⁷ which are not subject to the sovereignty of any particular state and are subject to free use by all states with certain limitations.¹⁵⁸

The only maritime zone that may not necessarily fluctuate with sea level rise is the continental shelf because Article 76 of the LOSC requires the coastal state to place charts and information that permanently describe the continental shelf’s outer limits with the UN Secretary General.¹⁵⁹ One author points out that a coastal state would still maintain its continental shelf even if its island becomes completely inundated.¹⁶⁰ However, it is questionable whether an entity that no longer can be considered a state because it lacks a defined land territory can continue to claim any maritime zones at all, including a continental shelf.¹⁶¹

In sum, an island state will likely lose its maritime claims if its defined territory becomes completely submerged.¹⁶² Notably, the impact of rising sea levels on baselines does not seem to have been considered from the time the notion of baselines was originally devised during the Hague Conference all the way up to the adoption of the LOSC.¹⁶³ The current President of the International Tribunal for the Law of the Sea (ITLOS), José Luiz Jesus,¹⁶⁴ writes that “[t]he prospect of sea-level rise and its effect on maritime space and borderlines was not specifically addressed by the 1982 Convention. Indeed, during the Conference this

a distance exceeding the breadth of the territorial sea from the mainland or a ‘real’ island, it has no territorial sea of its own (internal citations omitted)”; *see also* Llanos, *supra* note 142, at 264 (pointing out that even low tide elevations are threatened by sea level rise, which will affect the structure of future maritime zones).

156. Maritime Delimitation and Territorial Questions Between Qatar and Bahrain (Qatar v. Bahr.), 2001 I.C.J. 40, 102 (March 16); Schofield, *supra* note 147, at 26-27.

157. Soons, *supra* note 18, at 230.

158. LOSC, *supra* note 11, at art. 86-87, 89.

159. *Id.* at art. 76(9); Soons, *supra* note 18, at 216-17.

160. Soons, *supra* note 18, at 219.

161. *See* Rayfuse, *supra* note 17, at 6-7 (discussing how maritime zones may only be claimed by states).

162. *Id.* at 4 (discussing how submerged islands will lose their territorial sea, exclusive economic zone, and continental shelf); *see generally* Maas & Carius, *supra* note 17, at 6 (“[i]nstead of opening up new resources, sea-level rise is likely leading to shrinking maritime territories and thus international disputes over extent of current boundaries”); *see also* Caron 1990, *supra* note 17, at 634 (discussing how the existence of maritime zones in the LOSC depends on a baseline’s continued presence).

163. Caron 2009, *supra* note 141, at 5.

164. *General Information – Judges: The Presidency*, INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA, <http://www.itlos.org/index.php?id=17> (last visited Feb. 8, 2011).

was not a major concern.”¹⁶⁵

Considering the fact that sea levels are on the rise, legal commentators have called for a renewed analysis of the rules on baselines.¹⁶⁶ In order to mitigate the uncertainty of ambulatory baselines and maritime zones, some scholars proposed that states should move toward permanently fixing ocean boundaries, which some states have done through bilateral treaties.¹⁶⁷ It remains unclear, however, whether such rights to fixed maritime zones could be maintained in the specific case of an island state completely submerging into the sea, and thus ceasing to exist.¹⁶⁸ It is also not enough that baselines are simply prospectively frozen because it does not resolve the issue of the maintenance of statehood¹⁶⁹ in the event of complete land loss by small island states.¹⁷⁰

Overall, certain fundamental changes to the LOSC should be made in order to address this issue of losing maritime zones in a way that also addresses the statehood question.¹⁷¹ The Maldives appears to have attempted to address these issues through the construction of the artificial island, Hulhumalé. Therefore, this article next examines the legal regime governing artificial islands to determine whether such man-made land-masses may be used to effectively address small island states' concerns about statehood and maritime zones in the face of a sea level rise.

V. THE CONSTRUCTION OF ARTIFICIAL ISLANDS AS A SOLUTION TO MAINTAINING MARITIME ZONES AND STATEHOOD

The Maldives' construction of the artificial island Hulhumalé may serve as a practical solution to mitigate the effects of climate change for small island states, and in particular, the loss of statehood and maritime

165. José Luiz Jesus, *Rocks, New-Born Islands, Sea Level Rise and Maritime Space*, in *NEGOTIATING FOR PEACE* 579, 601 (Jochen A. Frowein et al., eds., 2003).

166. Caron 1990, *supra* note 17, at 629.

167. Caron 2009, *supra* note 141, at 14, 16; Soons, *supra* note 18, at 225.

168. *Compare* Soons, *supra* note 18, at 228-29 (rejecting the ability of a state party to a delimitation agreement to invoke the doctrine of changed circumstances to terminate the agreement and concluding that maritime boundaries permanently fixed through an agreement between states are not affected by sea level rise), *with* Caron 2009, *supra* note 141, at 14, 16 (questioning whether a state may continue to exercise fixed boundaries if it becomes completely submerged).

169. Rayfuse, *supra* note 17, at 6.

170. Yamamoto & Esteban, *supra* note 16, at 7.

171. *See* Paskal, *supra* note 28 (discussing how the starting point to resolving the issues surrounding submerging island states is the LOSC).

zones.¹⁷² At the current moment, whether such construction may serve as a legal solution to these two issues simultaneously remains unclear, especially considering the fact that the status of artificial islands remains limited under international law.¹⁷³ Therefore, small island states such as the Maldives should advocate for their status to be expanded, potentially through a new law.¹⁷⁴ In order to demonstrate the limited nature of artificial islands, and how any derogation from these limitations might operate, the relevant rules of international law regulating their status must first be analyzed.

A. Current Legal Status of Artificial Islands

1. In General

Many of the current international legal rules governing the status of artificial islands are found in the LOSC.¹⁷⁵ However, the LOSC does not explicitly define the term ‘artificial island,’ so the best way to define an artificial island may be by first determining what it is not.¹⁷⁶ Article 121(1) defines an island as “a naturally formed area of land, surrounded by water, which is above water at high tide.”¹⁷⁷ This definition effectively eliminates some types of formations, including islands constructed artificially and land masses at low-tide elevations, from having the legal status of islands.¹⁷⁸ The LOSC itself further states in Article 60(8), at least in the context of the EEZ, and through Article 80 regarding the continental shelf, that “[a]rtificial islands, installations and structures do not possess the status of islands.”¹⁷⁹

While an artificial island does not fit into the legal definition of an island, a coastal state has the explicit right to construct them within its maritime zones according to the LOSC.¹⁸⁰ A coastal or land-locked state

172. Larry Luxner, *Raising the Maldives*, SAUDI ARAMCO WORLD, May/June 2009, <http://www.saudiaramcoworld.com/issue/200903/raising.the.maldives.htm> (last visited Feb. 8, 2011).

173. See, e.g., LOSC, *supra* note 11, art. 60(8) (discussing how artificial islands do not have the status of islands within the exclusive economic zone); Tsaltas et al., *supra* note 27, at 16-17.

174. *Id.*

175. See, e.g., LOSC, *supra* note 11, art. 60, 121.

176. Samuel Pyeatt Menefee, “Half Seas Over”: *The Impact of Sea Level Rise on International Law and Policy*, 9 UCLA J. ENVTL. L. & POL’Y 175, 209-10 (1991).

177. LOSC, *supra* note 11, art. 121(1).

178. Steven Wei Su, *The Tiayu Islands and their Possible Effect on the Maritime Boundary Delimitation Between China and Japan*, 3 CHINESE J. INT’L L. 385, 392 (2004).

179. LOSC, *supra* note 11, at art. 60(8), 80.

180. *Id.* at art. 2(1), 60(1), 60(8), 80; see also NIKOS PAPADAKIS, THE

may also construct artificial islands on the high seas.¹⁸¹ For artificial islands constructed in the coastal state's internal waters and territorial sea, the state can exercise sovereignty.¹⁸² In both the EEZ and continental shelf the coastal state has "exclusive jurisdiction over such artificial islands, installations and structures, including jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations."¹⁸³ Even though the coastal state has jurisdiction over artificial islands constructed in these areas, this jurisdiction is not equivalent to sovereignty.¹⁸⁴ However, a state cannot exercise jurisdiction over artificial islands built on the high seas because a state's exercise of sovereignty over any part of the high seas would be contrary to the LOSC.¹⁸⁵

The right to construct artificial islands also entails numerous legal responsibilities attributable to the state.¹⁸⁶ For example, regarding artificial islands constructed in the EEZ and continental shelf, the coastal state must give other states notification of their construction, as well as maintain a permanent warning system of their existence.¹⁸⁷ They cannot be constructed where their presence would undermine the use of internationally acknowledged sea-lanes.¹⁸⁸ The coastal state is obliged to pass laws to prevent marine environmental pollution from the construction of its artificial islands.¹⁸⁹ If an artificial island becomes partially or completely abandoned, the coastal state has a general

INTERNATIONAL LEGAL REGIME OF ARTIFICIAL ISLANDS 51-55 (1977).

181. LOSC, *supra* note 11, art. 87(d).

182. PAPADAKIS, *supra* note 180, at 78, 151.

183. LOSC, *supra* note 11, art. 60(2), 80.

184. George V. Galdorisi & Alan G. Kaufman, *Military Activities in the Exclusive Economic Zone: Preventing Uncertainty and Defusing Conflict*, 32 CAL. W. INT'L L.J. 253, 278 (2002); Galea, *supra* note 25, at 86.

185. LOSC, *supra* note 11, art. 89; *see also* EUR. CONSULT. ASS. DEB. 23D SESS. 606 (Jan. 19, 1972) ("too much encouragement must not be given to those who imagine that by establishing an island on the high seas, they are, so to speak, creating sovereign rights; that is not admissible").

186. *See, e.g.*, LOSC, *supra* note 11, art. 60, 80, 208; *see also* Karen N. Scott, *Tilting at Offshore Windmills: Regulating Wind Farm Development within the Renewable Energy Zone*, 18 J. ENVTL. L. 89, 96 (2006) (mentioning that states have rights and obligations with regard to artificial islands constructed on the continental shelf or in the EEZ).

187. LOSC, *supra* note 11, art. 60(3), 80. Other obligations exist when an 'installation' is constructed in the International Seabed Area for the purpose of carrying exploration and exploitation activities there. *Id.* art. 147(2); UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982: A COMMENTARY VOL. VI 208 (Myron H. Nordquist et al., eds. 1995).

188. LOSC, *supra* note 11, art. 60(7), 80.

189. *Id.* art. 208.

obligation to remove it, or with respect to an artificial island not completely deconstructed, the coastal state must give suitable notification to other states regarding the dimensions, location, and depth of the remains.¹⁹⁰

2. *Artificial Islands and the Generation of Maritime Zones*

As previously mentioned, the LOSC governs the generation of maritime zones, and dictates that if a land mass satisfies the legal definition of an island under article 121(1) of the LOSC, it may claim all the maritime zones available to it under the Convention.¹⁹¹ Nonetheless, artificial islands would not satisfy the “naturally formed” element of this definition because they do not materialize as a result of the forces of nature, but rather, are man-made.¹⁹² Therefore, the most limiting factor of artificial islands is that they have no effect on the generation of maritime zones.¹⁹³

The “naturally formed” requirement under the LOSC’s island definition has had a peculiar existence, because it is a relatively recent addition to international law.¹⁹⁴ The Sub-Committee II of the Second Commission (Territorial Waters) of the 1930 Hague Conference implicitly allowed artificial islands to claim territorial seas, because they observed that “[t]he definition of the ‘Island’ does not exclude artificial islands, provided these are true portions of territory and not merely floating works, anchored buoys, etc.”¹⁹⁵ The Hague Codification Conference failed to adopt a comprehensive convention, and therefore the status of artificial islands having the ability to generate maritime zones remained ambiguous for some time.¹⁹⁶

Moreover, when the International Law Commission (“ILC”) revisited the issue in 1956, it omitted any ‘naturally formed’ requirement in its definition in Article 10 of the draft articles concerning the law of

190. *Id.* art. 60(3), 80; Walker & Noyes, *supra* note 125, at 228.

191. LOSC, *supra* note 11, art. 121(1)-(2); Charney, *supra* note 143, at 864; Freestone & Pethick, *supra* note 103, at 74.

192. MOM RAVIN, LAW OF THE SEA: MARITIME BOUNDARIES AND DISPUTE SETTLEMENT MECHANISMS 23 (United Nations-The Nippon Foundation 2005), available at http://www.un.org/Depts/los/nippon/unff_programme_home/fellows_pages/fellows_papers/mom_0506_cambodia.pdf.

193. LOSC, *supra* note 11, art. 60(8), 121(1); RAVIN, *supra* note 192, at 23.

194. HIRAN W. JAYEWARDENE, THE REGIME OF ISLANDS IN INTERNATIONAL LAW 8 (1990).

195. League of Nations Doc. C.230M.117 1930 V (1930), quoted in JAYEWARDENE, *supra* note 194, at 8.

196. JAYEWARDENE, *supra* note 194, at 8; see Galea, *supra* note 25, at 23-26.

the sea.¹⁹⁷ Comment 2 to draft Article 10 excluded only two features from the proposed definition of island, neither of which encompassed artificial islands explicitly.¹⁹⁸ The first exclusion was formations at low tide elevations, including those with installations built on them that would render the installation itself above high tide waters.¹⁹⁹ The second excluded feature was “technical installations built on the sea-bed, such as installations used for the exploitation of the continental shelf,” but the ILC advocated for maintaining a zone of safety around this type of feature because of their “extreme vulnerability.”²⁰⁰ This second excluded feature does not explicitly reference artificial ‘islands;’ it only discusses “technical installations,” and draft Article 71 and its comments, which deals with technical installations on the continental shelf, does not further define the term.²⁰¹ In fact, nowhere in the entire 1956 draft articles is the term ‘artificial island’ even used, but perhaps this is a reflection of the fact that in its earlier sessions, “the Commission . . . left out subjects which, because of their technical nature, were not suitable for study by it.”²⁰²

Ultimately, the exclusion of artificial islands from the ability to generate maritime zones stemmed from a 1958 United States proposal during the First Law of the Sea Conference to add the ‘naturally formed’ qualification to the islands definition, which essentially resolved this ambiguity existing in the draft articles.²⁰³ Article 10(1) in the resulting 1958 Convention on the Territorial Sea and the Contiguous Zone requires that an island be “naturally formed.”²⁰⁴ This definition is

197. Int'l L. Comm'n, *Report of the International Law Commission to the General Assembly: Report of the International Law Commission Covering the Work of its Eighth Session*, U.N. Doc. A/3159 (Apr. 23-Jul. 4, 1956), reprinted in [1956] 2 Y.B. Int'l L. Comm'n 253, 257, U.N. Doc. A/CN.4/SER.A/1956/Add.1 [hereinafter Int'l L. Comm'n 1956 G.A. Report] (“[e]very island has its own territorial sea. An island is an area of land, surrounded by water, which in normal circumstances is above [the] high-water mark”); JAYWARDENE, *supra* note 194, at 8.

198. Int'l L. Comm'n 1956 G.A. Report, *supra* note 197, at 270.

199. *Id.*

200. *Id.*

201. *Id.* at 270, 299-300.

202. *Id.* at 254; *see also* Galea, *supra* note 25, at 120 (discussing how the need to distinguish artificial from natural islands was not really considered at this time because the technology was not available to engage in such construction).

203. LOSC COMMENTARY III, *supra* note 17, at 327; JAYWARDENE, *supra* note 194, at 8; Aristotelis B. Alexopoulos, *The Legal Regime of Uninhabited Islets and Rocks in International Law: The Case of the Greek Seas*, 56 REVUE DE DROIT INTERNATIONAL 131, 135 (2003).

204. Convention on the Territorial Sea and the Contiguous Zone art. 10(1), April 29, 1958, 516 U.N.T.S. 205 (“[a]n island is a naturally formed area of land, surrounded by water, which is above water at high tide”).

mirrored in the LOSC under Article 121(1).²⁰⁵

As another result of the First Law of the Sea Conference, under Article 5 of the Convention on the Continental Shelf, artificial “installations and other devices” constructed on the continental shelf are not islands and do not bear their own territorial seas or affect maritime delimitation.²⁰⁶ A similar provision exists in the more recent LOSC, which states that artificial islands “have no territorial sea of their own,”²⁰⁷ at least in the context of the newly created EEZ, and extending states’ rights to more expansive aspects of the continental shelf.²⁰⁸ This provision also mentions that “their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf.”²⁰⁹ Artificial islands also cannot be considered as part of the baseline for the measurement of maritime zones, because although Article 11 states that permanent harbor works forming a fundamental part of a harbor system can form part of the coast for the purpose of constructing baselines to calculate the territorial sea, artificial islands cannot be used in this way.²¹⁰ Ultimately, states’ concerns in developing the law of the sea regarding artificial islands reflect a desire to limit claims to expansive areas of the sea through territorial manipulation by artificial island construction.²¹¹

As a result of these severe limitations, artificial islands are only allowed to generate one limited zone under the LOSC at the election of the coastal state, called a zone of safety, at least when one is constructed in the coastal state’s EEZ or continental shelf.²¹² In this safety zone, the coastal state may take the necessary steps to maintain the safety both of navigation and the artificial island itself.²¹³ All ships must respect and

205. LOSC, *supra* note 11, art. 121(1); LOSC COMMENTARY III, *supra* note 17, at 338.

206. Convention on the Continental Shelf art. 5(4), Apr. 29, 1958, 499 U.N.T.S. 311.

207. *Id.* art. 60(8).

208. Galea, *supra* note 25, at 38.

209. LOSC, *supra* note 11, art. 60(8).

210. *Id.* at art. 11; Galea, *supra* note 25, at 40, 83; John E. Noyes, *New Land for Peace: An Overview of International Legal Aspects* 48 (Roger Williams University Center for Macro Projects and Diplomacy, Macro Center Working Papers, Paper No. 7, 2004), *available at* http://docs.rwu.edu/cgi/viewcontent.cgi?article=1005&context=cmpd_working_papers.

211. Galea, *supra* note 25, at 37.

212. LOSC, *supra* note 11, art. 60(4), 80; *see also* Convention on the Continental Shelf, *supra* note 206, art. 5(2)-(3)(discussing how coastal states may declare reasonable safety zones around its installations and devices constructed on the continental shelf); *see also* JAYEWARDENE, *supra* note 193, at 9.

213. LOSC, *supra* note 11, art. 60(4), 80; U.N. OFFICE FOR OCEAN AFFAIRS & THE LAW OF THE SEA, *supra* note 29, at 61.

comply with generally accepted international navigation standards in this zone.²¹⁴ The coastal state must design the safety zone so that it bears a reasonable relationship to the nature and function of the artificial island.²¹⁵ The coastal state may determine the breadth of this safety zone, which must take into account relevant international standards in the calculation, but the safety zone may not exceed 500 meters from the artificial island's outer edge.²¹⁶ The safety zone can be extended "as authorized by generally accepted international standards or as recommended by the competent international organization."²¹⁷

In sum, although there is a general right under international law for a state to construct artificial islands, which also entails a number of obligations,²¹⁸ artificial islands are not islands and as a result cannot generate maritime zones.²¹⁹ This current limitation may have significant impacts on the maintenance of maritime zones of small island states such as the Maldives, which has already chosen to construct artificial islands as protective margins against climate change.²²⁰ In light of the recognition that climate change is significantly impacting global sea levels,²²¹ it may be time to revisit the LOSC to give further legal effect to artificial islands.²²²

214. LOSC, *supra* note 11, art. 60(6), 80.

215. *Id.* art. 60(5), 80.

216. *Id.*

217. *Id.*

218. *Id.* art. 2(1), 60, 80, 87(d), 208; *see also* Scott, *supra* note 186, at 96 (mentioning that states have rights and obligations with regard to artificial islands constructed on the continental shelf or in the EEZ).

219. COUNCIL FOR SECURITY COOPERATION IN THE ASIA-PACIFIC, MEMORANDUM 6: THE PRACTICE OF THE LAW OF THE SEA IN THE ASIA PACIFIC 3 (2002), *available at* <http://www.cscap.org/uploads/docs/Memorandums/CSCAP%20Memorandum%20No%2006%20--%20The%20Practice%20of%20the%20Law%20of%20the%20Sea%20in%20the%20AP.pdf>.

220. *See* DR. TRISH BATCHELOR, MALDIVES 104 (Lonely Planet 2006) (discussing how Hulhumalé was constructed to combat sea level rise in the Maldives).

221. Robert L. Glicksman, *Global Climate Change and the Risks to Coastal Areas from Hurricanes and Rising Sea Levels: The Costs of Doing Nothing*, 52 LOY. L. REV. 1127, 1134-5 (2006).

222. *See* Tsaltas et al., *supra* note 27, at 2 (pointing out that a climate change adaptation solution might be artificial island construction projects).

*B. Amending the LOSC to Expand the Legal Status of
Artificial Islands for the Purpose of Maintaining
Maritime Claims and Statehood*

Some legal commentators have proposed expanding the LOSC to allow technological installations to replace the lost territory of an inundated island state, ultimately in the form of a legal framework to allow the nationals of that state to maintain the state's sovereign rights.²²³ After all, the practical significance of artificial islands was recognized during the ILC's deliberations as early as the 1950s.²²⁴ During those debates, Faris Bey el-Khoury of Syria opined that "artificial islands [c]ould no doubt be useful for various purposes and Governments should not be discouraged from undertaking their construction."²²⁵ Certainly, artificial islands have become valuable resources in supporting urban expansion and tourism ventures in recent years.²²⁶ Likewise, in the context of sea level rise, artificial islands may prove useful to facilitating the reclamation and preservation of land, to serve as habitats that can be populated by humans, and as symbols of sovereignty.²²⁷

Unfortunately, the LOSC seems to be at odds with these contemporary uses because that treaty dictates that artificial islands cannot bear maritime zones.²²⁸ Therefore, the Maldives should advocate for the regime of artificial islands to be expanded to encompass attribution of maritime zones, and by implication statehood, through a new rule in the Convention.²²⁹ The remainder of this discussion is

223. *Id.* at 16-17; *see also* Yamamoto & Esteban, *supra* note 16, at 7 (discussing how one way to preserve sovereignty is to build sea defenses around small island states).

224. Summary Record of the 260th Meeting, [1954] 1Y.B. Int'l L. Comm'n 90, 94, U.N. Doc. A/CN.4/SR.260, available at http://untreaty.un.org/ilc/documentation/english/a_cn4_sr260.pdf [hereinafter Int'l L. Comm'n 1954 260th Meeting Summary Record].

225. *Id.*

226. McKinley Conway, *The Case for Micronations and Artificial Islands*, FUTURIST, May 1, 2009, available at <http://www.allbusiness.com/environment-natural-resources/ecology/12329421-1.html>.

227. Tsaltas et al., *supra* note 27, at 3-4; *see also* Ilan Kelman, *Island Security and Disaster Diplomacy in the Context of Climate Change*, 63 LES CAHIERS DE LA SÉCURITÉ 61, 69 (2006), available at <http://www.disasterdiplomacy.org/kelman2006cce.pdf> (discussing building artificial islands strong enough to withstand climate change).

228. *See, e.g.*, LOSC, *supra* note 11, art. 60(8), 121; Tsaltas et al., *supra* note 27, at 16-17 ("the drawback is the insufficiency of the legal framework").

229. Tsaltas et al., *supra* note 27, at 16 ("the introduction of new provisions for uses of AIS [artificial islands and structures] other than exploration and exploitation purposes is a step [i]n [the right] . . . direction. Such provisions could deal with a potential role of AIS as 'safeguards' or as human habitats"); *see generally* Paskal, *supra* note 28 (discussing how the starting point to resolving the issues surrounding submerging island

intended to explore some of the legal issues that might need to be addressed to give effect to such a rule, and how these issues might be resolved.²³⁰

1. Preliminary Considerations

Preliminarily, any rule extending the legal characterization of artificial islands would likely be at odds with the LOSC as it stands now, given that artificial islands have such a limited meaning within the Convention. Therefore any departure from the current regime might be considered an exceptional remedy.²³¹ Thus, to limit the pool of states entitled to use the possible new rule, a state might have to objectively demonstrate that it is imminently threatened by submergence or that its maritime zones are threatened, which could be a factual determination performed by a specialized scientific body such as the IPCC.²³² The practical effect of such a determination is that it would prevent much larger continental states, which are not as threatened by being wiped out by sea level rise as small island states, from potentially abusing the rule.²³³

Another preliminary issue is where artificial islands could be built to maintain sovereign rights such as statehood and maritime claims.²³⁴ Commentators point out that coastal states enjoy sovereignty in their territorial sea and internal waters, including on artificial islands

states is the LOSC, and discussing how artificial islands might be used to resolve the issues of statehood being lost and the rights that attach to that status); Caron 1990, *supra* note 17, at 634 (discussing how one way to fix baselines could be creating a new rule in the LOSC); *see also* Galea, *supra* note 25, at 127-28.

230. *See* PAPADAKIS, *supra* note 180, at 37 (opining that “a successful seaward advancement will undoubtedly require the solution of many technical, economic, energy, pollution and other problems, if industrial societies are not to commit in the oceans the errors they have committed on land”).

231. *See* Tsaltas et al., *supra* note 27, at 1; *see, e.g.*, LOSC COMMENTARY III, *supra* note 17, at 327 (discussing how artificial islands are not islands).

232. The Intergovernmental Panel on Climate Change appears to already have the capability to determine rises in sea level regarding specific states. *See, e.g.*, IPCC Working Group II Report, *supra* note 37, at 694 (discussing that a fifty centimeter rise in sea level during the twenty-first century is a proper estimate regarding inundation of the Maldives).

233. *See generally* David Taylor, World Watch Inst., *Small Islands Threatened by Sea Level Rise*, in VITAL SIGNS 84 (2003), available at http://www.worldwatch.org/brain/media/pdf/pubs/vs/2003_sealevel.pdf (discussing how small islands are the most at risk regarding sea level rise).

234. *See generally* Tsaltas et al., *supra* note 27, at 8-10 (discussing varying scopes of jurisdiction within each maritime zone, and how where an artificial island is constructed might impact the scope of a state’s jurisdiction over activities taking place there).

constructed in those areas.²³⁵ Regarding archipelagic states, such as the Maldives,²³⁶ those states may claim sovereignty over their archipelagic waters as well.²³⁷ The Maldives specifically erected Hulhumalé within its archipelagic waters,²³⁸ in particular Hulhumalé was erected in the waters south of North Malé Atoll.²³⁹ Regardless, for future islands construction, the Maldives will still have to first consider the impact that the position of the island would have on the right of innocent passage of ships if the artificial island is constructed in the territorial sea or archipelagic waters, and second, choose a location for the island that would not infringe this right under the LOSC.²⁴⁰

Limiting where the state may build artificial islands, in order to maintain statehood and maritime zones, is critical because the farther out to sea coastal state jurisdiction stretches, the more weakened it becomes.²⁴¹ In the EEZ and continental shelf the coastal state only has “sovereign rights,” which is not equivalent to absolute sovereignty, but only amounts to a certain extent of “functional jurisdiction.”²⁴² Constructing artificial islands in the high seas with the ability to impute maritime zones and corresponding state sovereignty would undermine

235. *Id.* at 9-10; *see also* LOSC, *supra* note 11, art. 2(1); PAPADAKIS, *supra* note 180, at 78, 151.

236. The Maldives is considered an archipelagic state. MUNAVVAR, *supra* note 30, at 126.

237. LOSC, *supra* note 11, art. 49; *see also* LORI FISLER DAMROSCH ET AL., INTERNATIONAL LAW 1399-1400 (4th ed. 2001).

238. *See generally* Maldives Maritime Zones Act, *supra* note 129 (illustrating a map of the Maldives’ archipelagic waters, which would appear to include Hulhumalé within those waters).

239. *See generally* MALDIVES ENVTL. PROTECTION AGENCY, ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR HULHUMALÉ SWIMMING AREA AND LAND BASED FACILITIES DEVELOPMENT PROJECT, http://epa.gov.mv/index.php?option=com_content&view=article&id=165:eia-for-Hulhumalé-swimming-area-and-land-based-facilities-development-project&catid=2:eia-reports&Itemid=27/ (discussing how Hulhumalé is located within the south of the Maldives’ North Malé Atoll); *see also* MALDIVES HOUS. DEV. CORP., CALL FOR EXPRESSION OF INTEREST FOR THE DEVELOPMENT OF THE HULHUMALÉ COMMERCIAL ZONE (2009), *available at* <http://www.investmaldives.org/mediacenter/documents/EOI.HDC.Commercial.Zone.pdf> / (discussing how Hulhumalé is located only three kilometers from Malé).

240. *See generally* Noyes, *supra* note 210, at 47-48 (discussing how in the proposition for an artificial island to be built in Egypt’s territorial sea, the builder must be mindful of the right of innocent passage in the territorial sea); LOSC, *supra* note 11, art. 17-26, 52-53.

241. Dubner, *supra* note 111, at 296.

242. COUNCIL FOR SECURITY COOPERATION IN THE ASIA-PACIFIC, *supra* note 219, at 3; *see also* MARIA GAVOUNELI, FUNCTIONAL JURISDICTION IN THE LAW OF THE SEA 64-65 (2007) (discussing functional jurisdiction in the EEZ).

the principle that “no state may validly purport to subject any part of the high seas to its sovereignty.”²⁴³ Also, if the chosen location for the artificial island under such a rule were limited to waters in which the constructing state enjoys sovereignty,²⁴⁴ it would implicitly limit the rule to existing states, because maritime zones may only be declared by existing states.²⁴⁵

Additionally, any rule regarding artificial islands would have to take into consideration marine environment preservation responsibilities under the LOSC.²⁴⁶ This issue was highlighted in a 2003 case brought before the ITLOS by Malaysia against Singapore.²⁴⁷ Malaysia contended that Singapore’s land reclamation activities in the Straits of Johor were impacting Malaysia’s rights to waters within its jurisdiction, including “the rights to the natural resources within its territorial sea and . . . its rights to the integrity of the marine environment in those areas.”²⁴⁸ Malaysia requested provisional measures to halt Singapore’s irreversible land reclamation activities which were “causing and ha[d] the potential to cause serious and irreversible damage to the marine environment and serious prejudice to the rights of Malaysia” in violation of various LOSC articles.²⁴⁹ The ITLOS ultimately ordered provisional measures against

243. LOSC, *supra* note 11, at art. 89; *see also* Int'l L. Comm'n 1954 260th Meeting Summary Record, *supra* note 224, at 94 (Member Georges Scelle discussing how artificial islands should have territorial seas of their own when erected in the territorial sea, but not when erected on the high seas); *Chierici and Rosa v. Ministry of the Merchant Navy and Harbour Office of Rimini*, 71 I.L.R. 259-61 (Council of State 1969) (It.) (discussing how an artificial island built by Italian citizens on the high seas “was in conflict with the principles which govern the freedom of the high seas because of its structure and position in that it permanently withdrew part of the high seas from common use”).

244. Grigoris Tsaltas points out that a coastal state may build artificial islands in its internal waters and territorial sea, where it may regulate any activities on artificial islands. Tsaltas et al., *supra* note 27, at 9-10.

245. Rayfuse, *supra* note 17, at 6.

246. *See, e.g.*, LOSC, *supra* note 11, art. 192; Jean-Dominique Wahiche, *Artificial Structures and Traditional Uses of the Sea*, 7 MARINE POL'Y 37, 47 (1983); *see also* PAPADAKIS, *supra* note 180, at 111 (demanding for clearer rules on pollution from artificial islands); Tsaltas et al., *supra* note 27, at 5 (discussing how artificial islands construction has created environmental issues, particularly in the Persian Gulf).

247. *Land Reclamation Activities* (Malay. v. Sing.), Case No. 12, Order of Oct. 8, 2003, ITLOS Rep. 21, available at http://www.itlos.org/fileadmin/itlos/documents/cases/case_no_12/Order.08.10.03.E.pdf [hereinafter ITLOS Order].

248. *Id.* ¶ 93.

249. *Land Reclamation Activities* (Malay. v. Sing.), Case No. 12, Request by Malay., Sept. 4, 2003, ¶ 14-18, available at http://www.itlos.org/fileadmin/itlos/documents/cases/case_no_12/request_malaysia_eng.1.pdf.

Singapore, declaring it could not prejudice Malaysia's rights or cause serious harm to the environment through its land reclamation project.²⁵⁰ The case illustrates the potential environmental impacts of land reclamation projects, such as artificial islands in the sea, which the Maldives would have to consider in tailoring a new rule to comply with the rest of the LOSC.²⁵¹

2. Attributing Maritime Zones to Artificial Islands in the Amendment and Curtailing Potential Abuse

Another important issue to address would be how to undermine the potential abuse by states in using the rule to manipulate their maritime boundaries.²⁵² In the 1950s, during the ILC's deliberations over whether to incorporate a requirement of natural formation into the definition of islands, concerns arose about manipulating artificial island construction to expand maritime zones.²⁵³ ILC member Hersch Lauterpacht feared that "if artificial islands erected within the territorial sea were to have a territorial sea of their own, then a State could erect a series of small artificial islands just within its territorial sea and a few miles apart," which "might in that way double the extent of its territorial sea."²⁵⁴

If the Maldives push for artificial islands to be able to bear maritime zones in any new rule,²⁵⁵ it might try to curtail such abuse by requiring the constructing state to permanently fix its baselines prior to or following construction, which has been a solution proposed by others to negate the concept of ambulatory baselines in the face of rising sea levels.²⁵⁶ Therefore, fixing baselines would serve not only to reinforce existing maritime claims as sea levels continue to rise,²⁵⁷ but also serve as a check on potential later manipulation of maritime zones from artificial island construction.²⁵⁸ Regardless of whether an artificial island

250. ITLOS Order, *supra* note 247, ¶ 106(2).

251. *See* Wahiche, *supra* note 246, at 47 (discussing how pollution of the marine environment from artificial islands will need to be regulated).

252. Tsaltas et al., *supra* note 27, at 14.

253. Int'l L. Comm'n 1954 260th Meeting Summary Record, *supra* note 224, at 94.

254. *Id.*; *see also* D.H.N. Johnson, *Artificial Islands*, 4 INT'L L.Q. 203, 213 (1951).

255. *See, e.g.*, PAPADAKIS, *supra* note 180, at 104, 108 (proposing that a type of artificial island called "Sea-Cities" . . . should be entitled to a territorial sea belt, or to a similar jurisdictional zone with obvious sovereign implications").

256. Caron 2009, *supra* note 141, at 14.

257. *Id.* at 14, 16.

258. Schofield, *supra* note 148, at 24 ("island-building activities on the part of states, in an effort to *enhance* their claims to maritime space by creating new islands, is . . . contrary to the Convention") (emphasis added); *see also* Leticia Diaz et al., *When is a "Rock" an "Island?"—Another Unilateral Declaration Defies "Norms" of International Law*, 15 MICH. ST. J. INT'L L. 519, 555 (2007) (discussing how Japan's unilaterally

is granted the ability to generate maritime zones, its presence would at least lend greater legitimacy to freezing maritime zones in the absence of naturally formed land.²⁵⁹

Requiring any new rule to be subjected to compulsory dispute settlement procedures under Part XV of the LOSC, could provide another enforcement mechanism to curtail the potential for abuse that might occur if maritime zones were allowed to be attributed to artificial islands.²⁶⁰ Part XV of the Convention calls for settling disputes concerning the LOSC's interpretation or application through peaceful means.²⁶¹ The LOSC gives primacy to settling disputes through informal means such as negotiation, but if the parties to the dispute fail to settle informally, then the parties may choose among a number of third-party adjudicatory tribunals having the power to render binding decisions.²⁶² Notably, state parties are explicitly exempt or may opt out from compulsory dispute settlement regarding certain types of disputes under the Convention.²⁶³ However, to give credence to curtailing abuse under a rule attributing maritime zones to artificial islands, states should not be exempt from Part XV regarding such a provision under the LOSC.²⁶⁴

3. Attributing Statehood to Artificial Islands in the Amendment and Clarifying the Uncertainty

An additional issue is whether artificial islands could be characterized as defined territory for the purpose of maintaining statehood.²⁶⁵ It is not clear whether a state may continue to exist if its territory is solely made up of artificial islands after losing its naturally

proposed construction of artificial islands around small rocks located in the Pacific Ocean in order to generate an exclusive economic zone would undermine the purpose of the LOSC).

259. David D. Caron questions whether it is equitable for an island state to maintain its maritime zones if its land mass becomes completely submerged. Caron 2009, *supra* note 141, at 16; *see also* Tsaltas et al., *supra* note 27, at 6 (discussing how artificial islands could be used as "sovereignty markers").

260. LOSC, *supra* note 11, at art. 279-299.

261. *Id.* art. 279; Joanna Mossop, *The Future of Compulsory Dispute Settlement Under the Law of the Sea Convention*, 36 VICT. U. WELLINGTON L. REV. 683, 684 (2005).

262. John E. Noyes, *The International Tribunal for the Law of the Sea*, 32 CORNELL INT'L L.J. 109, 118-119 (1998).

263. LOSC, *supra* note 11, art. 297-298.

264. *Id.*

265. *See* Lawrence A. Horn, *To Be or not to Be: The Republic of Minerva – Nation Founding by Individuals*, 12 COLUM. J. TRANSNAT'L L. 520, 539 (1973) ("it is not clear whether such artificially created islands would fulfill the definition of territory under international law").

formed islands to sea level rise.²⁶⁶ Although a few municipal court decisions²⁶⁷ and legal commentators have discussed whether a new state may be borne out of an artificial island, many authorities seem to remain silent on whether an existing state may maintain statehood exclusively through artificial island construction.²⁶⁸ Comprehensive research has only unraveled the thoughts of one scholar who claims that “artificial islands constructed by, or under the auspices of, a State, and occupied by it, shall be subject to its sovereignty and control as any other part of its territory.”²⁶⁹ This scholar also advocates for treating artificial islands just like natural islands, including for the purpose of generating a territorial sea.²⁷⁰

Another commentator argues that international law permits other types of artificial construction projects, such as conservation of the coastline or even islands.²⁷¹ For example, the Netherlands has taken the approach of building an elaborate system of dikes and dams to ward off sea level rise.²⁷² Similarly, the construction and occupation of Hulhumalé

266. Tsaltas et al., *supra* note 27, at 15-16; *see also* PAPADAKIS, *supra* note 180, at 112 (arguing that states have the right to construct artificial islands and treat them as territory for sovereignty purposes).

267. *See, e.g., United States v. Ray*, 423 F.2d 16, 17-23 (5th Cir. 1970) (regarding a dispute involving private individuals who sought to construct artificial islands on the Triumph and Long Reefs four and one half miles off Florida’s coast through dredging seabed material and using it to fill the reefs to create newly planned state, the Grand Capri Republic); *Chierici and Rosa*, *supra* note 243, at 258-61 (disputing a small artificial island built by private individuals 300 meters outside Italy’s territorial sea); *In Re Duchy of Sealand*, 80 I.L.R. 685 (Admin. Ct. of Cologne 1978) (Ger.) (holding that an anti-aircraft platform used to assert new statehood did not satisfy the territory element of statehood).

268. *See, e.g.,* Trevor A. Dennis, *The Principality of Sealand: Nation Building by Individuals*, 10 TULSA J. COMP. & INT’L L. 261, 296 (2002) (“international law does not provide any conclusive answers as to the status of The Principality of Sealand . . . the creation of new states by individuals is such a rare event it has simply not been adequately addressed by the international community”); Frank B. Arenas, *Cyberspace Jurisdiction and the Implications of Sealand*, 88 IOWA L. REV. 1165, 1178, 1181 (2003) (discussing how the artificial installation called Sealand likely fails to satisfy the requisite criteria of the Montevideo Convention including the defined territory element); Samuel Pyeatt Menefee, “*Republics of the Reefs: Nation-Building on the Continental Shelf and in the World’s Oceans*,” 25 CAL. W. INT’L L.J. 81, 81, 111 (1994) (discussing how attempted creations of a number of new states, including by artificial island construction, on the continental shelf have failed).

269. PAPADAKIS, *supra* note 180, at 112.

270. *Id.* at 5.

271. Soons, *supra* note 18, at 222.

272. DELTAWERKEN, *Delta Works*, <http://www.deltawerken.com/23> (last visited Feb. 8, 2011); Yamamoto & Esteban, *supra* note 16, at 3 (discussing how island states might use sea dykes to protect against inundation of their land masses, much like how the Dutch have done); Titus, *supra* note 10, at 19; Pier Vellinga, *The Netherlands, The Three*

was an act of an existing state.²⁷³ Admittedly, the Netherlands' continued exercise of sovereignty over areas of land it has reclaimed does not appear to have been challenged by the international community.²⁷⁴ However, just because there has not been any current or past objection to these practices does not mean there may not be objections in the future.²⁷⁵

In the absence of a concrete legal doctrine,²⁷⁶ and to ensure that inundated states can continue to exist on artificial islands, the Maldives might advocate for enshrining in the LOSC a recognition-based theory by the international community to give effect to artificial island construction for this purpose,²⁷⁷ akin to the constitutive theory of statehood.²⁷⁸ After all, even if states establish a common practice toward the treatment of artificial structures, and under international law construction need not be approved at the international level, "it is not just advisable, but frequently simply mandatory to commence consultation."²⁷⁹ This recognition could come from an international body such as the UN General Assembly, which may render resolutions that are not actually legally binding²⁸⁰ but in some circumstances may be strong

Foreign Perspectives, 15 EPA J. 28, 28 (1989).

273. See generally Hulhumalé Background, *supra* note 54 ("Hulhumalé is the most ambitious land reclamation and urban development project undertaken by the Government of [the] Maldives to date").

274. Yamamoto & Esteban, *supra* note 16, at 7.

275. See Tsaltas et al., *supra* note 27, at 16-17 (discussing how rights of artificial island construction will eventually develop in the face of climate change and proposing that the implications of such claims should be considered now).

276. *Id.* at 15.

277. See PAPADAKIS, *supra* note 180, at 37, 112-15 (citing GEORG SCHWARZENBERGER, A MANUAL OF INTERNATIONAL LAW 69 (5th ed. 1967)) (discussing how artificial islands could be used to create new states or expand existing states, and how new sovereign states built out of artificial islands "may be legitimized through general recognition by the existing state subjects of international law"); see also Yamamoto & Esteban, *supra* note 16, at 6 ("Island States such as Tuvalu and Maldives are facing the threat of losing their territories not because of a war or occupation, but as a result of rising sea levels caused by climate change, a situation that has never happened before. If they lose their territory they would depend on other States to recognize their international personality"); Rosemary Rayfuse, *International Law and Disappearing States: Utilising Maritime Entitlements to Overcome the Statehood Dilemma*, University of New South Wales Faculty of Law Research Series, Working Paper No. 52, 9, 12 (2010), available at <http://law.bepress.com/cgi/viewcontent.cgi?article=1247&context=unswwps> (calling for recognition of "deterritorialized state[s]").

278. LAUTERPACHT, *supra* note 70, at 38.

279. Galea, *supra* note 25, at 125 (citing Erik Jaap Molenarr, *Airports at Sea: International Legal Implications*, 14(3) INT'L J. MARINE & COASTAL L. 371, 386 (1999)).

280. U.N., *Functions and Powers of the General Assembly*,

evidence of an emerging norm of customary international law.²⁸¹ Another potential forum is the Security Council, which has the authority, under Chapter VII of the UN Charter, to issue legally binding resolutions necessary to uphold international peace and security.²⁸² Climate change and the submergence of an entire state to sea level rise may impact international peace and security, such as perpetuating maritime border disputes.²⁸³

Finally, it may be necessary to precisely define the type of artificial island that could take on these attributes,²⁸⁴ due to the fact that the term ‘artificial island’ is not adequately defined in the LOSC.²⁸⁵ A formulated working definition reflecting new and different uses of artificial islands²⁸⁶ might take into consideration what physical characteristics the artificial island might need to be considered a defined territory for the purpose of maintaining statehood.²⁸⁷ Artificial structures such as seawalls and even artificial islands have been used previously by governments for the preservation and reclamation of land, but it is not clear whether such structures could be considered a territory in the event that all of that state’s naturally formed territory became submerged by rising sea levels.²⁸⁸ One commentator answers this question in the negative, taking the view that the territory element of statehood is equal to “land territory, and not . . . artificial constructions built on the sea-bed.”²⁸⁹ However, the

<http://www.un.org/en/ga/about/background.shtml> (last visited Feb. 8, 2011).

281. DAMROSCH ET AL., *supra* note 237, at 146.

282. U.N. Charter art. 39; Peter Hulsroj, *The Legal Function of the Security Council*, 1 CHINESE J. INT’L L. 59, 60 (2002).

283. Press Release, Security Council, Security Council Holds First-Ever Debate on Impact of Climate Change on Peace, Security, Hearing Over 50 Speakers, U.N. Doc. SC/9000 (Apr. 17, 2007), <http://www.un.org/News/Press/docs/2007/sc9000.doc.htm> (last visited Oct. 6, 2011) (Jeem Lippwe speaking on behalf of Federated States of Micronesia); Christopher K. Penny, Greening the Security Council: Climate Change as an Emerging ‘Threat to International Peace and Security’ 38-39 (Jun. 2005) (unpublished manuscript) (on file with International Human Dimensions Program), *available at* <http://www.gechs.org/downloads/holmen/Penny.pdf>.

284. *See* PAPADAKIS, *supra* note 180, at 105.

285. Menefee, *supra* note 176, at 209-10.

286. Galea, *supra* note 25, at 127-30.

287. *See* PAPADAKIS, *supra* note 180, at 105 (discussing how there should be a category of artificial islands called “Sea-Cities” that encompasses factors to make it “of the nature of territory” to make it “capabl[e] of being subjected to the sovereignty of a State as ‘territory,’ and [having] a degree of permanence similar to that possessed by a natural island”).

288. *See* Tsaltas et al., *supra* note 27, at 4, 6 (pointing out that whether a state’s territory may be made up of solely artificial islands in the event of sea level rise remains an unsettled legal question).

289. N.A. MARYAN GREEN, INTERNATIONAL LAW: LAW OF PEACE 34 (2nd ed. 1982); *see also* James Crawford, *Islands as Sovereign Nations*, 38 INT’L & COMP. L.Q. 277, 279

commentator only speaks of this qualification in the context of forming a new state, not the continuity of an existing state²⁹⁰ such as the Maldives.²⁹¹

Looking to existing jurisprudence and scholarship may help LOSC states parties tailor the definition of an artificial island under the LOSC in such a way as to encompass the defined territory element of statehood. For instance, the meaning of a defined territory in the context of artificial island construction was litigated in a 1978 German court case, *In Re Duchy of Sealand*.²⁹² It is worth mentioning that while this is a municipal court case, such cases may serve as a subsidiary means for determining new rules of international law.²⁹³ In response to the attempt to declare nationality in a new state called 'Sealand,' comprising of a British World War II anti-aircraft platform located off the coast of Great Britain, the Administrative Court of Cologne ultimately held that Sealand failed the territory and population requirements of statehood.²⁹⁴

The court asserted that a military structure sitting sixty feet above water,²⁹⁵ with two large concrete shafts driven into the seabed, did not satisfy the territory element of statehood.²⁹⁶ To be a defined territory, the court reasoned that the area must be "situated on any fixed point on the surface of the earth," and furthermore, "only those parts on the surface of the earth which have come into existence in a natural way can be recognized as constituting State territory."²⁹⁷ Although the concrete shafts were fastened to the seabed, the judges reasoned that this did not make the platform part of the earth's surface or "land territory" because under international law territory only encompasses structures comprising a defined area on the surface of the planet.²⁹⁸ The court concluded that "[s]tate territory within the meaning of international law must be either

(1989) ("artificial islands cannot form the basis for territorial States any more than can ships").

290. GREEN, *supra* note 289, at 34.

291. The Maldives achieved independence in 1965. JOHN S. BOWMAN, COLUMBIA CHRONOLOGIES OF ASIAN HISTORY AND CULTURE 391 (2000).

292. *Sealand*, 80 I.L.R., at 685-87.

293. Statute of the International Court of Justice art. 38(d), Jun. 26, 1945, 3 Bevens 1179; SHABTAI ROSENNE, THE PERPLEXITIES OF MODERN INTERNATIONAL LAW 46 (2004) ("[t]he term judicial decisions does not refer only to decisions of international courts or tribunals. It also envisages . . . relevant internal judicial decisions").

294. *Sealand*, 80 I.L.R., at 683-85.

295. Matt Rosenberg, *Where in the World?*, DALL. MORNING NEWS (Texas), Feb. 4, 2001, at 5G.

296. *Sealand*, 80 I.L.R., at 685.

297. *Id.*

298. *Id.*

'mother earth' or something standing directly thereon."²⁹⁹

Legal commentators may provide more guidance on what may constitute a territory for artificial island construction.³⁰⁰ For example, one scholar distinguishes between an "installation," defined as human built structures made out of steel or concrete, and an "artificial island," which is constructed with natural materials such as soil and rocks.³⁰¹ This commentator considers the latter, but not the former, to be the "nature of territory."³⁰² Regarding the Maldives, the construction of Hulhumalé was a reclamation project, performed by dredging sand from the sea floor and depositing it in a shallow lagoon,³⁰³ which seems to be in line with what this commentator would consider to be territory.³⁰⁴ One scholar even goes so far as to argue that if an existing natural island is artificially conserved it would not lose its status as an "island."³⁰⁵ Another commentator points out that because the definition of an island itself must constitute "an area of land," there are two factors within this requirement that should be met, which could be relevant to any new definition of artificial islands:

Firstly, that a formation must have at least attachment to the seabed to have insular characteristics; and secondly, that the formation should . . . have an equivalent degree of permanence. These twin characteristics could, prima facie, appear to rule out as having insular status anchored ships, naturally-formed floating formulations (e.g. icebergs), technical insulations, and so-called "stilt villages[,] as all lack them."³⁰⁶

Ultimately, articulating a precise definition of an artificial island to maintain statehood and maritime zones must be left to the delegations of a future LOSC review conference, but the above discussion may prove to be helpful to

299. *Id.* at 685-86.

300. *See, e.g.*, PAPADAKIS, *supra* note 180, at 6.

301. *Id.*

302. *Id.*

303. Jon Hamilton, *Maldives Builds Barriers to Global Warming*, NAT'L PUB. RADIO, Jan. 28, 2008, <http://www.npr.org/templates/story/story.php?storyId=18425626/> (last visited Feb. 8, 2011); *see also* DEME Report, *supra* note 55.

304. *See* PAPADAKIS, *supra* note 179, at 6 (discussing how artificial islands made by manipulating soil and rocks in the ocean takes on the status of the "nature of territory").

305. Soons, *supra* note 18, at 222 (citing PAPADAKIS, *supra* note 179, at 91-97). Additionally, one scholar wishes for the definition of natural island to be expanded to encompass "[i]slands which have lost the quality of being above water at high tide retain the status of islands even in those instances where they are aided by artificial works to the extent of re-establishing their natural status of islands." Galea, *supra* note 25, at 130.

306. CLIVE R. SYMMONS, *THE MARITIME ZONES OF ISLANDS IN INTERNATIONAL LAW* 21 (1979); *see also* Johnson, *supra* note 254, at 214 (mentioning that that an artificial island that is permanent in nature should be considered territory for statehood).

future drafters of a new provision.³⁰⁷

4. *Summarizing Remarks*

As a “comprehensive constitution of the oceans” the LOSC from its inception was intended to be evolutionary in the face of change, not static.³⁰⁸ By incorporating new rules into the Convention to impute statehood and maritime zones to an artificial island and considering the discussed issues above,³⁰⁹ the LOSC can continue to fulfill this mandate and respond to continued changes in the international legal order of the oceans well into the future.³¹⁰ Moreover, such rules could “promote the economic and social advancement” of the Maldivian people, in line with the LOSC’s preamble, if a state is allowed to maintain its maritime zones and statehood through artificial island construction.³¹¹ However, numerous issues would need to be dealt with in tailoring such a new rule, including how to appropriately attribute maritime zones and statehood to human-made areas of land that were never intended to have such wide-ranging significance under the LOSC. The discussion above regarding these issues may offer some guidance to state parties in creating an appropriate characterization of artificial islands in envisaging these new uses.

VI. CONCLUSION

The nationals of the Maldives have expressed disgust that Hulhumalé is “an ugly mis-fit among the picture perfect beaches of their Indian Ocean archipelago.”³¹² However, the construction of such an artificial island ought to be advocated by the Maldives and other small island states as a solution to otherwise potentially losing statehood and maritime claims as sea levels continue to rise.³¹³ Other states, including

307. *See generally* Johnson, *supra* note 254, at 215 (in the context of the First Law of the Sea Conference, discussing how international treaty drafting bodies will ultimately have the task of recommending the types of artificial islands that may bear territorial seas of their own).

308. Tommy T.B. Koh, President of the Third United Nations Conference on the Law of the Sea, Remarks at the Final Session of the Conference at Montego Bay 1 (Dec. 6-11, 1982), *available at* http://www.un.org/Depts/los/convention_agreements/texts/koh_english.pdf.

309. *See generally* Tsaltas et al., *supra* note 27, at 15-17 (advocating for an expansion of the legal regime of artificial islands to resolve climate change issues).

310. Koh, *supra* note 308, at 1; *see also* GAVOUNELI, *supra* note 242, at 59.

311. LOSC, *supra* note 11, at preamble.

312. Rosenberg, *supra* note 22, at 16.

313. *See generally* Paskal, *supra* note 28 (discussing how the LOSC does not take

Tuvalu, are also considering this option.³¹⁴ In order to implement this, the Maldives could advocate for an amendment to the LOSC to give further effect to artificial islands for these purposes.³¹⁵ Notably, some issues might arise in tailoring such a rule, particularly the method in which to attribute maritime zones and statehood to artificial islands, which would need to be dealt with effectively in a way that does not disrupt the remainder of the LOSC.³¹⁶

Even if such an amendment were enshrined in the LOSC, the Maldives would still face practical challenges in the implementation of an artificial island construction program, including the financial costs involved.³¹⁷ Hulhumalé cost roughly US\$63 million to build.³¹⁸ While the Maldives has considered buying a new homeland with its tourism revenue,³¹⁹ perhaps the money might be better spent investing in an artificial land reclamation program to keep its nationals in their existing territory.³²⁰

Constructing artificial islands also may affect the integrity of surrounding natural islands.³²¹ For example, when former President Gayoom decided to develop over thirty- six new artificial harbors nationwide between 2004 and 2007, the construction program fundamentally changed sea currents around the islands, which led to significant coastal erosion.³²² The presence of Hulhumalé has similarly

into account sea level rise, and discussing how artificial islands could be used to resolve the issues of statehood being lost and the rights that attach to that status, although there are security risks inherent in allowing this); *see also* Gaia Vince, *Paradise Lost?: How the Maldives is Fighting the Rising Tide of Climate Change*, NEW SCIENTIST, May 9, 2009, at 37 (discussing how nongovernmental organization Bluepeace has advocated for an artificial island construction program to combat the effects of climate change).

314. Robert Matau, *Tuvalu, Kiribati Look at Options to Relocating*, PAC. ISLAND NEWS ASS'N, Jan. 19, 2010, <http://www.pina.com.fj/?p=pacnews&m=read&o=7544228754b550cb34f172e1058050&PHPSESSID=f29620c841a39d6e003cb9df38bf4b8f> (last visited Oct. 6, 2011).

315. *See* Tsaltas et al., *supra* note 27, at 15-17.

316. *See, e.g.*, Menefee, *supra* note 176, at 209-10 (discussing how the LOSC does not characterize a definition for an artificial island).

317. Vince, *supra* note 313, at 37; Yamamoto & Esteban, *supra* note 16, at 7.

318. Simon Gardner, *Nation Builds New Landmass*, MERCURY, Dec. 18, 2004, at 45.

319. Barun Roy, *40 Years to Doom?*, BUS. STANDARD, Apr. 9, 2009, at 8.

320. *See* Gardner, *supra* note 318, at 45 (pointing out some Maldivians' praise for Hulhumalé and how that island is going to be expanded in the future).

321. *See* Christine Toomey, *The Maldives: Trouble in Paradise*, TIMES OF LONDON, Feb. 1, 2009, *available at* <http://www.timesonline.co.uk/tol/news/environment/article5604464.ece> (discussing how constructing man-made harbors in the Maldives led to erosion of surrounding islands).

322. *Id.*

contributed to the increased erosion of nearby islands, so these concerns would have to be mitigated in any future artificial island development program.³²³

Perhaps the most significant challenge would be obtaining consensus among the international community to give further effect to artificial islands, because international law is formed through the choices and consent of states, as opposed to being dictated by a legislating entity. Thus, the Maldives must ultimately convince other states that it is in their best interests to collectively give effect to any proposition.³²⁴ Simply obtaining global consensus on how to address the effects of climate change is already a challenge.³²⁵ Ultimately, the problem of climate change will require a solution at the international level because it is an international legal crisis.³²⁶ Giving small island states such as the Maldives, which are among the most susceptible to the impacts of climate change, the tools to survive would certainly be a worthwhile first step.³²⁷

323. Vince, *supra* note 313, at 37.

324. See Richard Shaffer et al., *International Business Law and its Environment* 47-48 (7th ed. 2009).

325. Eric Biber, *Climate Change and Backlash*, 17 N.Y.U. ENVTL. L.J. 1295, 1298-99 (2009) (discussing the backlash to climate change policies because the effects of climate change are “delayed harm”).

326. H.R.C. Res. 7/23, U.N. Doc. A/HRC/RES/7/23 (Mar. 28, 2008), *available at* http://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_7_23.pdf.

327. See *id.* (discussing how small island states are very threatened by climate change).