

## The Drowning State: Future of Indonesia's Archipelagic Baselines in the Face of Climate Change-Induced Sea Level Rise

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### Abstract

*As mankind's ultimate consequence of anthropogenic era, climate change has inevitably altered every aspect of mankind structure. One of which that has devastatingly altered the regime of law of the sea comes from the sea level rise with a rate unprecedented throughout all history. Confronted with such issue, this paper will address the response of Republic of Indonesia, as the historically prominent largest archipelagic state in the world which affect their maritime boundaries through shifting archipelagic baselines. This paper intends to explain the challenges faced and any solutions that has been taken by Indonesia and several possible recommendations in handling sea level rise crisis. The paper will approach the issue through normative understanding.*

### Intisari

*Sebagai konsekuensi utama umat manusia dari era antropogenik, perubahan iklim telah mengubah setiap aspek struktur umat manusia. Salah satu dampak buruk yang telah mengubah rezim hukum laut adalah kenaikan permukaan air laut dalam tingkat yang belum pernah terjadi sebelumnya sepanjang sejarah. Menghadapi permasalahan tersebut, tulisan ini akan membahas respon Republik Indonesia, sebagai negara kepulauan terbesar di dunia yang mempengaruhi batas maritimnya melalui pergeseran garis pangkal kepulauan. Tulisan ini bermaksud menjelaskan tantangan yang dihadapi dan solusi apa saja yang telah diambil oleh Indonesia serta beberapa kemungkinan rekomendasi dalam penanganan krisis kenaikan permukaan air laut. Makalah ini akan mendekati permasalahan ini melalui pemahaman normatif.*

**Keywords:** *Archipelagic State Doctrine, Climate Change, Sea Level Rise, Indonesia, Straight Archipelagic Baselines, UNCLOS 1982.*

**Kata Kunci:** *Doktrin Negara Kepulauan, Perubahan Iklim, Kenaikan Permukaan Laut, Indonesia, Garis Dasar Kepulauan Lurus, UNCLOS 1982.*

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## **A. Introduction**

The biggest life-altering challenge and calamity that humankind will face in the next decades is climate change. Climate change has inevitably transformed and will further alter all existing layers of social, economic, political, environmental, and cultural architecture of humankind. It is undoubted that without any meaningful and exponential progressive transformations within the current regimes and activities of humankind, the impacts of climate change will be even more catastrophic, permanent, and irreversible. Perceived to be one of the reasons for humankind sixth mass extinction,<sup>2</sup> climate change has also exponential impact in the regime of the law of the sea. One of the most inevitable impacts of climate change that is closely related to the governance of law of the sea is rising sea level. The 6<sup>th</sup> Intergovernmental Panel on Climate Change (IPCC) report found that global mean sea level has risen faster since 1900 than over any preceding century in at least the last 3000 years,<sup>3</sup> which is “unprecedented over the last century”.<sup>4</sup> Warnings pertaining to sea level rise has been dated as early as the 1980s by the scientific community, however not much attention are being paid to by the mundane.<sup>5</sup> Similarly, discussions concerning sea level rise are not in any way a new topic in the regime of law of the sea,<sup>6</sup> especially in recent years, this issue has risen to be an urgent subject discussed by international law of the sea committees.<sup>7</sup>

Although rising sea level is particularly “existentially” threatening for countries which are on low-lying coastal region and small islands,<sup>8</sup> archipelagic state is also as prone to the issues of sea level rise particularly affecting the maritime boundaries and baselines which in turn may also affect maritime entitlements as well as possibly

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<sup>2</sup> World Wildlife Fund, “What is the sixth mass extinction and what can we do about it?”, 15 April 2022, Available at: <https://www.worldwildlife.org/stories/what-is-the-sixth-mass-extinction-and-what-can-we-do-about-it#:~:text=Unlike%20previous%20extinction%20events%20caused,energy%20use%2C%20and%20climate%20change> (accessed on 13 June 2022).

<sup>3</sup> Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge: Cambridge University Press, 2021, Available at: [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Full\\_Report.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf)

<sup>4</sup> Freestone, D., and Schofield, C., “Sea Level Rise and Archipelagic States: A Preliminary Risk Assessment”, *Ocean Yearbook Online*, BRILL, Volume 35, Issue 1, 2021, p. 340 (**‘Freestone, D. and Schofield, C.’**)

<sup>5</sup> Menefee, S., ““Half Seas Over”: The Impact of Sea Level Rise on International Law and Policy”, *UCLA Journal of Environmental Law and Policy*, 1991, Vol. 9 Issue 2, p. 182

<sup>6</sup> Vidas, D., Freestone, D., McAdam, J., *International Law and Sea Level Rise: 2018 Report on the International Law Association Committee Sydney Conference of International Law and Sea Level Rise, 2019. (‘ILA Sydney Conference Report 2018’)*

<sup>7</sup> Baselines Committee of the International Law Association (ILA) from 2008 to 2012; The Committee on International Law and Sea-level Rise of the ILA from 2012 to 2018; The International Law Commission (ILC) on Sea-level Rise in Relation to International Law from 2019.

<sup>8</sup> House of Lords, “UNCLOS: the law of the sea in the 21st century”, *International Relations and Defence Committee HL Paper 159, 2nd Report of Session 2021–22, March 2022, p. 34*

threatening its archipelagic status.<sup>9</sup> Indonesia as the largest archipelagic state in the world is also no exception to this issue. It is noted that amongst other climate change consequences, sea level rise will in fact have the greatest impact on Indonesia and its seas, even if the rate of increase is limited to only 0.5 m in the next 100 years.<sup>10</sup> Depending on the region, the Indonesian sea level is increasing by the rate of 1-8 mm and even in an extreme scenario, will continue to 1.18 mm by the year of 2100.<sup>11</sup> In 2030, Indonesian average sea level rise is projected to be from 15 cm to 18 cm and in 2050 can be high as 25 cm to 30 cm.<sup>12</sup>

Now faced with the challenges of sea level rise due to climate change, this paper principally will address and expounds how Indonesia, as the largest and one of the most historically prominent archipelagic states in the world deal with the issue. In the first section, the paper will delve into the explanation on significant history and role of Indonesia in developing the archipelagic state doctrine. It will then move to the discussion on specific concerns faced by Indonesia pertaining to the UNCLOS 1982 particularly on the issue of maritime boundaries. At last, it will provide the existing ways in tackling the current issues and the way forward for Indonesia.

## **B. Indonesia's History and Role in The Development of Archipelagic State Doctrine**

Article 46(a) of UNCLOS 1982 defined archipelagic State as “a State constituted wholly by one or more archipelagos and may include other islands.” To which further in paragraph (b) of the same article, “archipelago” is defined as “a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic and political entity, or which historically have been regarded as such.”

At the heart of the archipelagic state doctrine discussion is the Republic of Indonesia as the biggest archipelagic state in the world<sup>13</sup> with over with over 18.800 islands,<sup>14</sup>

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<sup>9</sup> See Freestone, D., and Schofield, C. , pp. 340-341

<sup>10</sup> Vantier, L., Wilkinson, C., Lawrence, D., and D. Souter, “Indonesian Seas”, GIWA Regional Assessment 57. United Nations Environment Programme (UNEP), 2005, University of Kalmar, Kalmar, Sweden, p. 58

<sup>11</sup> Thao, N., “Sea-Level Rise and the Law of the Sea in the Western Pacific Region.” *Journal of East Asia and International Law*. Vol 13, No. 1, 2020, p.128. (**Thao, N.**)

<sup>12</sup> Ministry of National Development Planning, Indonesia Climate Change Sectoral Roadmap (ICCSR) Scientific Basis: Analysis and Projection of Sea Level Rise and Extreme Weather Event, March 2010, p. 30. Available at: [https://perpustakaan.bappenas.go.id/e-library/file\\_upload/koleksi/migrasi-data-publikasi/file/Policy\\_Paper/analysis-and-projection-of-sea-level-rise-and-extreme-weathe\\_20110217130224\\_1.pdf](https://perpustakaan.bappenas.go.id/e-library/file_upload/koleksi/migrasi-data-publikasi/file/Policy_Paper/analysis-and-projection-of-sea-level-rise-and-extreme-weathe_20110217130224_1.pdf)

<sup>13</sup> Cribb and Ford, *Indonesia beyond the Water's Edge: Managing and Archipelagic State*, Singapore: Institute of Southeast Asian Studies (ISEAS) Publishing, 2009, p.1. (**Cribb and Ford**)

<sup>14</sup> *Ibid.*

and 108.000 km of coastline extended across its territory.<sup>15</sup> To which within the 100 km vicinity of such coastline is home for around 98.4% of Indonesia's population.<sup>16</sup> Indonesia have declared and formalised its status as an archipelagic state under the notion of Wawasan Nusantara (archipelagic outlook),<sup>17</sup> and through the existing national laws and regulations as stipulated in Article 25A of the 1945 Constitution and as affirmed in various other laws such as Law No. 6 of 1996 on Indonesian Waters, Law No. 32 of 2014 on Seas, Government Regulation Number 38 of 2002 as amended by Government Regulation Number 37 of 2008 concerning Lists The Geographical Coordinates of the Indonesian Archipelago Baseline Points and others. The ratification and promulgation of the United Nations Conventions on the Law of the Sea 1982 (UNCLOS 1982) under Law No. 17 of 1985 has also further validated Indonesia's status and recognition as an archipelagic state. Nevertheless, the recognition of such archipelagic status in the past was not as smooth sailing.

### **Dutch Colonialisation Era**

Indonesia has come a long way in establishing its archipelagic status. Historically, as a formerly colonized state, Indonesia's jurisdiction over territorial waters are limited. The 300-years ruling of the Dutch has left significant impact on Indonesia territory particularly by successfully dividing the existing reigns of major empires controlling Indonesia in the past<sup>18</sup> and turned it into a single conquest entity under their ruling.<sup>19</sup> As the passage way for shipments and merchants during that time, the Indonesian waters are of distinct and crucial value by the Europeans particularly the Netherlands.<sup>20</sup>

Under the Dutch East Indies ruling, the Indonesian waters territory is governed under the Teritoriale Zeeën en Maritieme Kringen Ordonantie 1939 or the Dutch East Indies Ordinance 1939 which provided that Indonesia should follow the 3 nautical mile limit and the territory is divided through oceans in between, entailing that Indonesia's territory is a single united entity.<sup>21</sup> Many seas such as the Sunda, Java, Celebes, and

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<sup>15</sup> R. Mardhiah, The Impact of Sea Level Rise on Indonesia's Maritime Zones, Presentation at the Roundtable on Sea-level Rise and the Law of the Sea with Members of the International Law Commission (Nov. 14-15, 2019).

<sup>16</sup> See Thao, N., p.128.

<sup>17</sup> Sebastian, L., Supriyanto, R., Arsana, I. M. A., "Beyond the Archipelagic Outlook: The Law of the Sea, Maritime Security and the Great Powers" in Indonesia's Ascent Power, Leadership, and the Regional Order edited by Roberts, C., Habir, A., et al., *Critical Studies of the Asia Pacific Series*, January, 2015, pp. 308 – 331.

<sup>18</sup> Santos, Fedelyn A., "Beating the deadline: Archipelagic state compliance under UNCLOS article 47" (2008). World Maritime University Dissertations. 165. p. 44 (**Santos, Fedelyn A.**)

<sup>19</sup> Vickers, A., "History of Modern Indonesia", New York, Cambridge University Press, 2005 at p.2.

<sup>20</sup> Lauder, M. R.M.T. and Lauder, A., Maritime Indonesia and the Archipelagic Outlook Some reflections from a multidisciplinary perspective on old port cities in Java, Wacana Vol. 17 No. 1 (2016): p. 104.

<sup>21</sup> Arsana, I Made Andi, "Challenges and Opportunities in the Delimitation of Indonesia's Maritime Boundaries: A Legal and Technical Approach," Doctor of Philosophy thesis, Australian National Centre for Ocean Resources and Security, University of Wollongong, pp.107-110. (**Arsana, I Made Andi**)

Banda seas which are supposedly to be under the geographical scope of Indonesia were considered to be outside of the Indonesian jurisdiction under the law of the Dutch Indies and their practices.<sup>22</sup> Even in the following years after Indonesia's independence on 17 August 1945, Indonesia still applied the Dutch East Indies Ordinance 1939.

### **UNCLOS 1958 and UNCLOS 1960**

Only prior to the formulation of first UNCLOS concluded in 1958, Indonesia finally declared its status as an archipelagic state through a unilateral declaration called the Djuanda Declaration on 13 December 1957, which are named after the Prime Minister at that time, Djuanda Kartawidjaja.<sup>23</sup> The Djuanda Declaration 1957 stated that "... all waters surrounding, between and connecting the islands constituting the Indonesian State...are integral parts of the territory of the Indonesian State and, therefore, parts of the internal or national waters which are under the exclusive sovereignty of the Indonesian State". Such a declaration, although initially not formally recognized, has had a prominent impact on the archipelagic state doctrine and become a fundamental proof of the archipelagic state sovereignty in the international community.

Equipped with that, in the first meetings of UNCLOS 1958, Indonesia further pioneered and raised the discussion on archipelagic state, particularly by proposing to utilise the application of straight baselines to archipelagos.<sup>24</sup> Another discussion of archipelagic state doctrine only briefly raised up during the discussion of traditional waters with many delegations being concerned with how archipelagic state would justify the archipelagic state to grab the territory of high seas and territorial seas as internal waters.<sup>25</sup> Unfortunately, there has not been any thorough and formal recognition of the archipelagic state status in the first series of United Nations Conferences of the Law of the Sea in 1956 – 1958.<sup>26</sup> The same goes with the discussion of UNCLOS 1960 which did not yield any fruitful and meaningful validation of the archipelagic state doctrine. As a result, in the first and second UNCLOS meetings, Indonesia's archipelagic status in the international league is yet to be validated.

This however, does not stop Indonesia in crystalising and validating its status within the national regime. On 20 February 1960, following the Djuanda Declaration 1957,

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<sup>22</sup> Draper, J., "The Indonesian Archipelagic State Doctrine and Law of the Sea: "Territorial Grab" or Justifiable Necessity?", *International Lawyer Journal*, Vol. 11, No. 11, August 1977, p. 145. (**Draper, J.**)

<sup>23</sup> See Arsana, *I Made Andi*, p. 49

<sup>24</sup> Satya N. Nandan and Shabtai Rosenne, *United Nations Convention on the Law of the Sea 1982 : A Commentary*, Center for Oceans Law and Policy, University of Virginia School of Law, Martinus Nijhoff Publishers, Vol. II, 1993, p. 400. (**Satya N. Nandan and Shabtai Rosenne**)

<sup>25</sup> R. R. Churchill and A. V. Lowe, "2<sup>nd</sup> Edition of *The Law of the Sea*", Oxford: Machester University Press, 1988, p. 99. (**R. R. Churchill and A. V. Lowe**)

<sup>26</sup> Ram Prakash Anand, *International Law and the Developing Countries: Confrontation or Cooperation*, Boston: Martinus Nijhoff Publishers, 1987 at p. 206.

through the enactment Law No. 4 of 1960 concerning Indonesian Waters, Indonesia further reaffirmed its archipelagic status and extended its territory up to 12 nautical miles measured from baselines and extending of over 8000 nautical miles in its entirety.<sup>27</sup>

## **UNCLOS 1982**

The discussion concerning archipelagic state only begun again during the formulation of the third UNCLOS particularly during the United Nations Seabed Committee Sessions.<sup>28</sup> Here, Indonesia's contribution to the development of archipelagic state doctrine cannot be underestimated.<sup>29</sup> Although initially confronted and rejected by many maritime states which mostly concerned with the violations of their passage rights,<sup>30</sup> Indonesia along with the second largest archipelagic state, the Philippines, and other newly independent countries in the Pacific such as the Fiji did not stop to pursue for the codification and recognition of archipelagic status legitimacy internationally.<sup>31</sup>

Several notable contributions Indonesia has made in the archipelagic state doctrine includes firstly, in 1973-1974 Caracas sessions of the UN Seabed Committee, Indonesia has come up with numerous draft articles proposals in terms of defining archipelagic baselines, mathematically making calculable and objective limitations on the expanse of baselines, and creating direct communications for neighbouring countries.<sup>32</sup> Later in the Geneva Session, points are made by the Indonesian delegate on archipelagic waters sovereignty which includes deeply indented coastlines, the regime of bays, and fisheries rights in archipelagic waters.<sup>33</sup> Other points are also brought up in terms of navigation through archipelagic waters such as suspension of innocent passage rights for security reasons, categorization (normal commercial and non-commercial) for foreign vessels which affect their passage, traffic separation schemes, including for vessels bringing nuclear weapons or are nuclear-powered.<sup>34</sup> Furthermore, Indonesia also introduces the notion of compensation for any damage, loss, direct or indirect for any accidents or activities contradictory to the draft articles.<sup>35</sup>

Following various pursuits and proposals by Indonesia and other archipelagic states, at the end the UNCLOS 1982 adopted the basic position of Indonesia and other proposing archipelagic states. The archipelagic state doctrine is then formally included and regulated under Part IV, Article 46 to 54 of the UNCLOS 1982. It is safe to conclude

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<sup>27</sup> See Freestone, D., and Schofield, C, pp. 356-357

<sup>28</sup> See Satya N. Nandan and Shabtai Rosenne, p. 401.

<sup>29</sup> See Draper, J., p. 143.

<sup>30</sup> See R. R. Churchill and A. V. Lowe, p. 99

<sup>31</sup> See Satya N. Nandan and Shabtai Rosenne, pp. 403-404.

<sup>32</sup> See Draper, J., pp. 152 - 154

<sup>33</sup> *Ibid.*, pp. 154 - 156

<sup>34</sup> *Ibid.*, pp. 156 - 157

<sup>35</sup> *Ibid.*, p. 157-158

that Indonesia has become a pioneer and made significant contributions together with the integral roles of other archipelagic states in the archipelagic state doctrine.

### **C. Indonesia's Archipelagic State in the face of Climate Change and Sea Level Rise**

Although success concerning Indonesia's recognition and role in the archipelagic state doctrine has been achieved in the past, Indonesia is now faced with a new form of challenge in the law of the sea regime in the present era. Back in 1970s, the discussion of UNCLOS never touched upon the issue of sea level rise and climate change.<sup>36</sup> This raises a question of whether Indonesia, as a historically prominent and leading archipelagic state, would still be able to maintain its reign in pioneering adaption within their regulations in accordance to the changing condition of the sea particularly with sea level rise caused by climate change.

#### **Shifting Baselines: Deterritorialization and Reduce Maritime Zones**

The first implication of sea level rise to the Indonesian archipelagic state are related to inward shift of the straight archipelagic baselines due to sea level rise. On 11 March 2009, Indonesia has completed and deposited the list of coordinates of its archipelagic basepoints to the United Nations.<sup>37</sup> It is noted that the maritime boundaries of Indonesia is currently made up of 192 baseline segments, of which 160 are straight archipelagic baselines and 32 are normal baseline segments.<sup>38</sup> However, in the face of sea level rise, these baselines designation are threatened.

The UNCLOS 1982 recognizes various types of baselines such as normal baselines,<sup>39</sup> straight baselines<sup>40</sup> but specific to archipelagic states, the term straight archipelagic baselines are used, which under Article 47 of UNCLOS 1982 set out as follows:

1. An archipelagic State may draw straight archipelagic baselines joining the outermost points of the outermost islands and drying reefs of the archipelago provided that within such baselines are included the main islands

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<sup>36</sup> Busch, S., Law of the Sea Responses to Sea-Level Rise and Threatened Maritime Entitlements: Applying an Exception Rule to Manage an Exceptional Situation. In E. Johansen, S. Busch, & I. Jakobsen (Eds.), *The Law of the Sea and Climate Change: Solutions and Constraints*, Cambridge: Cambridge University Press, 2020, pp. 315 – 316.

<sup>37</sup> Deposit of a list of geographical coordinates of points of the Indonesian Archipelagic Baselines based on the Government Regulation of the Republic of Indonesia Number 38 of 2002 as amended by the Government Regulation of the Republic of Indonesia Number 37 of 2008, Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations, Available at: [https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DEPOSIT/idn\\_mzn67\\_2\\_009.pdf](https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DEPOSIT/idn_mzn67_2_009.pdf) <https://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/IDN.htm>

<sup>38</sup> US Department of State Bureau of Oceans and International Environmental and Scientific Affairs, *Indonesia: Archipelagic and other Maritime Claims and Boundaries*, 141 Limits of the Sea (2014), available at <https://2009-2017.state.gov/documents/organization/231912.pdf>.

<sup>39</sup> United Nations Convention on the Law of the Sea 1982, Article 5. ('UNCLOS 1982')

<sup>40</sup> See UNCLOS 1982, Article 7.

and an area in which the ratio of the area of the water to the area of the land, including atolls, is between 1 to 1 and 9 to 1.

2. The length of such baselines shall not exceed 100 nautical miles, except that up to 3 per cent of the total number of baselines enclosing any archipelago may exceed that length, up to a maximum length of 125 nautical miles.

3. The drawing of such baselines shall not depart to any appreciable extent from the general configuration of the archipelago.

4. Such baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the nearest island.

5. The system of such baselines shall not be applied by an archipelagic State in such a manner as to cut off from the high seas or the exclusive economic zone the territorial sea of another State.

6. If a part of the archipelagic waters of an archipelagic State lies between two parts of an immediately adjacent neighbouring State, existing rights and all other legitimate interests which the latter State has traditionally exercised in such waters and all rights stipulated by agreement between those States shall continue and be respected.

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

8. The baselines drawn in accordance with this article shall be shown on charts of a scale or scales adequate for ascertaining their position. Alternatively, lists of geographical coordinates of points, specifying the geodetic datum, may be substituted.

9. The archipelagic State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

When confronted by sea level rise, the main issue of the UNCLOS 1982 comes from the lack of adaptability or the rigidity of the straight archipelagic baselines measurement which could disadvantage the archipelagic state in terms of their maritime boundaries. Article 31 of Vienna Convention on the Law of Treaties 1969 stipulated that an interpretation of a treaty in a should be approached in good faith and in a manner that is consistent to the context and in the light of its object and purpose. The same approach should also be introduced when it comes to interpreting or in the face of the unprecedented challenge of climate change and sea level rise in the regime of law of the sea.



Here, a special attention must be particularly given to Article 47 paragraph 1 of the UNCLOS 1982 that becomes the decisive factors to draw archipelagic baselines.<sup>41</sup> Baselines itself are the low-water line along the coast<sup>42</sup> whereby such a low-water line is further defined as the intersection of the plane of low water with the shore or the line along a coast, or beach, to which the sea recedes at low water.<sup>43</sup> Even though not explicitly stated within UNCLOS, it is presumed by scholars and further supported in state practice that baselines are considered to ambulatory in nature, that means it is susceptible or adaptive of the changes within the sea level.<sup>44</sup> Therefore, the rise in the sea level means that these ambulatory baselines will also be shifted landward which reduces the maritime zones claims of the State in question such as their territorial sea, Exclusive Economic Zone, continental shelf and others.

Furthermore, as the regime of the law of the sea believes in the principle of the land dominates the sea which entails that “it is the configuration of the land, whether a continuous line of land or consisting of broken island fringes, that may bring areas of sea within the territory of a State.”<sup>45</sup> This means that the sovereignty over sea only comes if there are land territory in the first place.<sup>46</sup>

Implementing such principle here, this means that in the long run, with significant increase of the sea level, the further inward shift of the baselines to the land will not only cause receding territory, but also undoubtedly threaten the sovereignty of a State. Having elaborated that, in the face of shifting baselines due to sea level rise, Indonesia therefore will be faced with the issue of reduction of territory not only in land but also its archipelagic waters and maritime zones. This will for instance, changes the maritime zones of Indonesia allowing for extension high seas while reducing the Exclusive Economic Zone which can impacted Indonesia’s national interests.

### **Vulnerable Baselines: Designation of New Archipelagic Baselines and Threat to Archipelagic Status Claim**

Another issue of sea level rise which may affect the Indonesian archipelagic is the sinking of small low elevation islands which becomes the basepoints for many archipelagic state to draw its baselines from. Referring to Article 47(1) and (4) of UNCLOS 1982, the archipelagic islands are joined through series of basepoints which

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<sup>41</sup> See Santos, Fedelyn A., p. 27.

<sup>42</sup> UNCLOS 1982, Article 5

<sup>43</sup> United Nations Division for Ocean Affairs and the Law of the Sea (UNDOALOS), *Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (United Nations Publication, 1989), p. 24.

<sup>44</sup> Strauss, Michael J. “The Future of Baselines as the Sea Level Rises: Guidance from Climate Change Law.” *The Journal of Territorial and Maritime Studies*, vol. 6, no. 2, 2019, pp. 30-31.

<sup>45</sup> ICJ, Fisheries Case (United Kingdom v. Norway), Judgment of 18 December 1951, ICJ Reports 1951, para. 116.

<sup>46</sup> Ja, Bing, *The Principle of the Domination of the Land over the Sea: A Historical Perspective on the Adaptability of the Law of the Sea to New Challenges*, Germany Yearbook of International Law 57, 2014, pp. 1 - 32

may lie on various natural or man-made features such as the outermost islands, drying reefs or on low-tide elevations within the distance not exceeding the breadth of territorial sea from nearest islands or also measured from the distance surmounted by existing lighthouses or other similar installations.<sup>47</sup> However, it is to be noted that some basepoints features are more susceptible to rising sea level than others.

It is acknowledged that basepoints on low-tide elevations as utilized by Dominican Republic and Trinidad and Tobago are the most at risk whereby such low-tide elevation will just be submerged by the rise of sea-level.<sup>48</sup> As for placement of basepoints on the fringing drying reef, although used by many archipelagic state,<sup>49</sup> the main threat here lies in the resistance of such reefs to the changes within its environment. It is undoubted that the accelerated sea-level rise exacerbated by the acidification and deoxygenation of the ocean and extreme weather has caused the reefs to be impaired and lose their resilience. In such account, the continuous effects of such occurrences would cause rapid erosions and evidently, the destruction and disappearance of such coral reefs.<sup>50</sup>

Another basepoints feature used to draw archipelagic state baselines is by plotting it on outermost islands. As most of Indonesia's archipelagic basepoints lies in islands,<sup>51</sup> Indonesia is definitely well-acquainted with and are currently facing this issue. Now in the face of sea level rise, a special attention has to be paid particularly to basepoints which are placed on small and low-elevation islands. In this case, the significant increase of sea level can ultimately result in engulfing or the full submersion of such islands leading to loss of the basepoints. An example of this previously occurred in the Nipah Island whereby sea level rise has caused such small, low-elevation island to be submerged, and threatened one of the most strategic archipelagic basepoints of Indonesia.<sup>52</sup>

Having addressed that, referring to Article 47(1) of the UNCLOS 1982, the drawing of archipelagic baselines should be should also adhere to a mathematical calculation of water-to-land ratio of 1:1 and 9:1. Indonesia currently possesses a water area of 3,081,756 square kilometres and land area of 1,904,569 square kilometres, making

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<sup>47</sup> UNCLOS 1982, Article 47(1) - (4); United Nations, *Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (New York: UN Office for Ocean Affairs and the Law of the Sea, 1989), p. 37. (**'UN Office for Ocean Affairs and the Law of the Sea'**)

<sup>48</sup> See Freestone, D., and Schofield, C, pp. 377 and 381

<sup>49</sup> Beazley, P. B. "Reefs and the 1982 Convention on the Law of the Sea," *International Journal of Estuarine and Coastal Law*, 6(4), 1991, pp. 281-312.

<sup>50</sup> See Freestone, D. and Schofield, C, p. 374 - 376

<sup>51</sup> Government Regulation Number 38 of 2002 as amended by Government Regulation Number 37 of 2008 concerning Lists The Geographical Coordinates of the Indonesian Archipelago Baseline Points and others.

<sup>52</sup> Sakharina, I. K., et. al., "Sinking or not? An Indonesian Approach to Prevent the Rise of Sea Levels Due to Global Warming", *YIJUN Institute of International Law 2022, ASEAN International Law*, p. 654. (**'Sakharina I. K., et. al'**)

their water-to-land area ratio 1.61:1.<sup>53</sup> However, this will soon change as by 2050, an estimation of around 1500 Indonesian islands would have sunk due to rising sea levels, and as further supported by Witoelar, former Minister of Life and Environment Affairs, Indonesia would lose around 2000 islands by 2030 if sea levels continue to rise.<sup>54</sup>

The submersion of these islands means that there would be removal of the existing basepoints making up Indonesia's archipelagic state territory. Accordingly, there are two main challenges invoke: (1) causing the base points to be further apart from one another which may not be permitted under UNCLOS<sup>55</sup> and (2) resulting in the necessary water-to-land ratio requirement to no longer be met to which such changes may not only affect maritime zone claims but might also compromise the State's ability to maintain its claim to archipelagic status.<sup>56</sup> Although with over 18000 islands, Indonesia is unlikely to lose its archipelagic status, but it does have to prepare in bringing about new designation or archipelagic basepoints to still be in compliance with the UNCLOS.

#### **D. The Way Forward in Tackling Climate Change Induced Sea Level Rise**

In the submission to the United Nations General Assembly (UNGA) in 2017, Indonesia stresses the importance of supporting not only small islands and archipelagic states but most importantly the developing states when faced with climate change. These measures include by employing thorough collection of relevant scientific data, awareness raising, fostering climate resilient sustainable development of oceans and seas, development of ocean-based mitigation measures and adaptation policies and strategies, as well as capacity-building, partnership, and financing mechanism.<sup>57</sup> These efforts are conducted as means of mitigation, adaptation and even restoration to the challenges faced in rising sea level.

#### **Practical Measures: Natural and Man-made Solutions**

To start with, in better preparing for the sea level rise, Indonesia has utilized and prioritized monitoring and mapping measures to track the increase of sea level particularly in the densely populated coastal region using approximately 53 tide gauge

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<sup>53</sup> Limits in the Seas No.141 Indonesia Archipelagic and Other Maritime Claims and Boundaries Office of Ocean and Polar Affairs Bureau of Oceans and International Environmental and Scientific Affairs U.S. Department of State, September 15, 2014 pp. 2-3. Available at: <https://www.state.gov/wp-content/uploads/2020/02/LIS-141.pdf>

<sup>54</sup> See Sakharina, I. K., et. al., p. 655.

<sup>55</sup> UNCLOS 1982, Article 47(2).

<sup>56</sup> See ILA Sydney Conference Report 2018, p. 10

<sup>57</sup> View of the Republic of Indonesia on the Effect of Climate Change on Oceans, UNGA 2017, available at: [https://www.un.org/depts/los/general\\_assembly/contributions\\_2017/Indonesia.pdf](https://www.un.org/depts/los/general_assembly/contributions_2017/Indonesia.pdf), p. 1

stations distributed across the archipelago and planning on the adaptation policies.<sup>58</sup> This monitoring hopefully would collect more data and statistics on the most prone region of sea level rise that should be on top of the government's agenda list.

Indonesia has also adapt to the rising sea level through introduction of practical solutions such as man-made constructions including dike equipped with polder system and also natural solutions such as rehabilitation in an effort to increase soil surface and reduce wave energy destruction so that the rate of erosion can be reduced and sylvofishery method.<sup>59</sup> In the following years, the implementation of technology such as detached breakwater, water gate and tidal barriers, floodwalls system, reclamation and others are also used by Indonesia to prevent the sea level rise.<sup>60</sup> One of the implementation of this man-made solutions occurs during the submersion of one of archipelagic state basepoints, Pulau Nipah. The government reacted quickly and was able to conduct extensive reclamation which elevates the small island of Nipah above sea level, thus not affecting the plotting of the baselines. Although these measures deem to reduce the impacts of sea level rise, the measures are quick-fix and temporary in nature and they are rather simply to just buy some time for Indonesia.

### **Legal Measures: To Amend or Not to Amend UNCLOS 1982?**

Indonesia is also lacking national legal adaptability and governance in the issue of sea level rise,<sup>61</sup> therefore it relies on the international legal instruments. The International Law Association Committee on International Law and Sea Level Rise (ILA Committee) has actually considered several proposals to better adapt with the baseline issue particularly through utilising adaptive interpretive approach namely by considering to maintain the baselines despite subsequent changes in the coastline or by maintaining the existing outer limits of all maritime zones despite changes brought about by sea

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<sup>58</sup>Ministry of Environment of Republic Indonesia, Indonesia First National Communication on Climate Change Convention, United Nations Framework Convention on Climate Change, 2007, available at <https://unfccc.int/resource/docs/natc/indonc1.pdf>, pp. 420-421.

<sup>59</sup> Ministry of Environment of Republic Indonesia, Indonesia Second National Communication on Climate Change Convention, United Nations Framework Convention on Climate Change, 2012, available at [https://unfccc.int/files/national\\_reports/non-annex\\_i\\_natcom/submitted\\_natcom/application/pdf/indonesia\\_snc.pdf](https://unfccc.int/files/national_reports/non-annex_i_natcom/submitted_natcom/application/pdf/indonesia_snc.pdf) p. 444.

<sup>60</sup> Ministry of Environment of Republic Indonesia, Indonesia Third National Communication on Climate Change Convention, United Nations Framework Convention on Climate Change, 2017, available at [https://unfccc.int/sites/default/files/resource/8360571\\_Indonesia-NC3-2-Third%20National%20Communication%20-%20Indonesia%20-%20editorial%20refinement%2013022018.pdf](https://unfccc.int/sites/default/files/resource/8360571_Indonesia-NC3-2-Third%20National%20Communication%20-%20Indonesia%20-%20editorial%20refinement%2013022018.pdf) p. 202

<sup>61</sup> Laely Nurhidayah, Sea Level Rise (SLR): Adaptations Option that Government Need to Take to Stop Jakarta and Other Coastal Cities from Sinking, *National research and Innovation Agency*, November 18, 2021, <https://pmb.brin.go.id/sea-level-rise-slr-adaptations-option-that-government-need-to-take-to-stop-jakarta-and-other-coastal-cities-from-sinking/> accessed 17 June 2022.

level rise.<sup>62</sup> However, up to now there has not been any decided consensus on employing either of the two interpretative approaches.<sup>63</sup>

Considering this, one way to address this is through the treaty-based mechanism of amendments. The Vienna Convention on Law of Treaties 1969 (VCLT) only provides the most basic procedures and general rule for the amendments of treaties whereby it necessitates that “a treaty should be amended by agreement between the parties.”<sup>64</sup> However, State parties are open to detail the procedures and provided further elaboration on its amendments as agreed within the treaty.<sup>65</sup>

### ***UNCLOS 1982 Amendments Procedure***

The UNCLOS 1982 itself provides two main types of amendments which are general amendment procedure and simplified amendment procedure.<sup>66</sup> Article 312 of UNCLOS 1982 sets out the regulation for general amendment procedure. In this procedure, a State Party may propose specific amendments to the Convention, other than those relating to activities in the Area, after a period of ten years has passed since the date of entry into force of this Convention by written communication addressed to the Secretary-General of the United Nations and request the calling of a conference to consider such proposed amendments. The Secretary-General will call the for the amendments conference if, within 12 months of the communication's distribution date, at least 50% of the States Parties respond favorably to the request.<sup>67</sup> Furthermore, unless otherwise determined by the conference, the decision-making process applicable at the amendment conference shall be the same as that applicable at the Third United Nations Conference on the Law of the Sea. There should be no vote on any amendments until all efforts at consensus have been made by the conference to come to agreement on them through consensus.<sup>68</sup>

Another amendment procedure of UNCLOS is through the simplified measure regulated under Article 313 of the UNCLOS 1982. The main difference of this simplified procedure with the former procedure is the fact that no reconvening of the conference is required which makes this procedure exponentially more practical and cost effective.<sup>69</sup> In this procedure, a State Party can propose the amendments directly

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<sup>62</sup> Davor Vidas, David Freestone, Jane McAdam, *International Law and Sea Level Rise: 2018 Report on the International Law Association Committee Sydney Conference of International Law and Sea Level Rise*, International Law Association, 2019, p. 14.

<sup>63</sup> Frances Anggadi, “Establishment, Notification, and Maintenance: The Package of State Practice at the Heart of the Pacific Islands Forum Declaration on Preserving Maritime Zones,” *Ocean Development & International Law*, 53:1, 2022, pp. 19-36.

<sup>64</sup> Vienna Convention on the Law of Treaties 1969, Article 39.

<sup>65</sup> Vienna Convention on the Law of Treaties 1969, Article 40(1).

<sup>66</sup> United Nations Convention on the Law of the Sea 1982, Article 312 and 313.

<sup>67</sup> United Nations Convention on the Law of the Sea 1982, Article 312(1)

<sup>68</sup> United Nations Convention on the Law of the Sea 1982, Article 312(2).

<sup>69</sup> Rozemarijn J. Roland Holst, *Change in the Law of the Sea Context, Mechanisms and Practice*, (Leiden, The Netherlands: Brill Nijhoff, 2022), p. 109.

to the Secretary-General of the United Nations to which all the notifications and communications will be done accordingly by the Secretary-General. Then, if, 12 months from the date of the circulation of the communication, no State Party has objected to the proposed amendment or to the proposal for its adoption by the simplified procedure, the proposed amendment shall be considered adopted.<sup>70</sup> However, should one of the State Party object to the amendment proposal or by the method of simplified procedure, then the amendment should be automatically considered as rejected.<sup>71</sup>

Following the adoption of the amendments whether by general or simplified procedures, the entry into force of such adoption is subjected to signature, ratification and accession by the Parties which should be done within 12 months of the adoption date.<sup>72</sup> The entry into force of such amendments will be invoked thirty days after the deposit of instruments of acceptance by two thirds of the States Parties or sixty States, whichever is greater.<sup>73</sup>

### ***‘For’ or ‘Against’ Amendments***

Although allowing for amendments procedures, up until now amendments has never been used to revise UNCLOS.<sup>74</sup> In the first place, the most common reason for the reluctance of conducting UNCLOS amendments is relating to the issues of impracticality and complicated procedures which are thought to be cumbersome to be useful.<sup>75</sup> For instance, an issue is raised under the general amendment procedure where a convene of new conference is required, this method may very much be time consuming and not cost-effective.<sup>76</sup> Another problem would be on its adoption and entry into force in which the proposed amendments are only binding only States who sign, ratifies or acceded them,<sup>77</sup> this may later on cause division within the UNCLOS implementation.<sup>78</sup> Furthermore, other reasons for not utilizing amendments lies in the existence of other mechanisms such for instance through using rules of reference to provide additional framework, Meetings of the Parties to collectively decide on specific mostly procedural changes, implementation agreements which extends and provides clearer guide on the treaty, even to utilization of other international

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<sup>70</sup> United Nations Convention on the Law of the Sea 1982, Article 313(3).

<sup>71</sup> United Nations Convention on the Law of the Sea 1982, Article 313(2).

<sup>72</sup> United Nations Convention on the Law of the Sea 1982, Article 315

<sup>73</sup> United Nations Convention on the Law of the Sea 1982, Article 316.

<sup>74</sup> Rozemarijn J. Roland Holst, *Change in the Law of the Sea Context, Mechanisms and Practice*, (Leiden, The Netherlands: Brill Nijhoff, 2022), p. 104

<sup>75</sup> House of Lords, “UNCLOS: the law of the sea in the 21st century”, International Relations and Defence Committee HL Paper 159, 2nd Report of Session 2021–22, March 2022, p. 20

<sup>76</sup> Rozemarijn J. Roland Holst, *Change in the Law of the Sea Context, Mechanisms and Practice*, (Leiden, The Netherlands: Brill Nijhoff, 2022), p. 109

<sup>77</sup> Chris Whomersley. “How to Amend UNCLOS and Why It Has Never Been Done”, *The Korean Journal of International and Comparative Law*, 9(1), 2021, p. 74.

<sup>78</sup> House of Lords, “UNCLOS: the law of the sea in the 21st century”, International Relations and Defence Committee HL Paper 159, 2nd Report of Session 2021–22, March 2022, p. 20

organizations through their activities.<sup>79</sup> Overall, there has been a tendency by the international community to reject utilizing amendments as a method of change.<sup>80</sup>

It is without a doubt that amendments are in fact challenging and impractical as amendments entails various complicated procedural requirements. Nevertheless, this does not directly and solely mean that amendments procedures are not an option at all. One of the main reasons for amendments is the ability to achieve the highest standard of legal certainty, stability, and security as required by most treaty. Although other legal measures such as using Meetings of Parties, and implementation agreements can be used, the former solution can only be focused on procedural matter while the latter solution is only supplementary.<sup>81</sup> In its implementation in the long run, having too many varieties of solutions with differing level of bindingness, rights, and obligations will invoke a degree of legal uncertainty. This would be especially detrimental especially in the issues of baselines in the face of sea level rise, where legal certainty and stability are particularly needed.<sup>82</sup>

As for the issue of impracticality, the UNCLOS amendment procedure itself has allowed for submissions of numerous proposals of various provisions of the UNCLOS which can be discussed at the same time.<sup>83</sup> In comparison to having to conduct numerous different Meetings of Parties, negotiations for implementation agreements which can also cumulatively take up more time, amendments can rather be a one-solution for all which can address various issues within the treaty directly involving all State Parties. Furthermore, in any case, where conducting a new conference is impractical, UNCLOS 1982 also provides for a simplified amendments procedure, where no reconvening of a conference is required.<sup>84</sup>

Furthermore, it has been argued that amendments may risk undoing the balance of interests of the treaty,<sup>85</sup> particularly going against the “consensus package deal” of the treaty<sup>86</sup> where it entails that ‘all the main parts of the Convention should be looked upon as an entity, as a single negotiated package, where the laws of give and take presumably had struck a reasonable balance between participating states considered

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<sup>79</sup> Chris Whomersley. “How to Amend UNCLOS and Why It Has Never Been Done”, *The Korean Journal of International and Comparative Law*, 9(1), 2021, pp. 72-83.

<sup>80</sup> Vladyslav Lanovoy and Sally O'Donnell, “Climate Change and Sea-Level Rise: Is the UN Convention on the Law of the Sea Up to the Task?,” *International Community Law Review*, 23(4), 2021, (forthcoming).

<sup>81</sup> Chris Whomersley. “How to Amend UNCLOS and Why It Has Never Been Done”, *The Korean Journal of International and Comparative Law*, 9(1), 2021, p. 74.

<sup>82</sup> Davor Vidas, David Freestone, Jane McAdam, *International Law and Sea Level Rise: 2018 Report on the International Law Association Committee Sydney Conference of International Law and Sea Level Rise*, International Law Association, 2019.

<sup>83</sup> United Nations Convention on the Law of the Sea 1982, Article 312.

<sup>84</sup> United Nations Convention on the Law of the Sea 1982, Article 313.

<sup>85</sup> House of Lords, “UNCLOS: the law of the sea in the 21st century”, International Relations and Defence Committee HL Paper 159, 2nd Report of Session 2021–22, March 2022, p. 20.

<sup>86</sup> Rozemarijn J. Roland Holst, *Change in the Law of the Sea Context, Mechanisms and Practice*, (Leiden, The Netherlands: Brill Nijhoff, 2022), p. 5

as a whole.<sup>87</sup> On the contrary, here its argued that amendments could be a better way to change the provisions of the treaty, as it relies on the process of consensus whereby even if only one State Party rejects the amendments, then the proposed amendments will not be adopted.<sup>88</sup> Therefore, not only that amendments provides for a more comprehensive and inclusive solutions to the issue of sea level rise but it would also be decided based on consensus and considers all States' proposals which can be for the interests of all States particularly by small, developing States which are most vulnerable to sea level rise such as in the Pacific,<sup>89</sup> therefore, also ensuring universal participation.<sup>90</sup>

## **E. Conclusion**

As elaborated within this journal, if there is one thing to conclude is the fact that Indonesia is not prepared in facing the new challenge of sea level rise. It should be expected that Indonesia as the historically prominent, pioneer of the archipelagic state doctrine and as the largest archipelagic state in the world should have stepped up and be able to lead the adaptation to the new challenges coming from sea level rise. However, up to now, only technical measures has been employed by Indonesia, and as stated within this journal there has not been any concrete legal measures employed by the Indonesian government in the face of sea level rise as a result of climate change. Moving forward there should perhaps be a more comprehensive and serious measures conducted by the Indonesian government in tackling sea level rise. Slowly but surely, sea level rise is creeping and a consequence of climate change that is unavoidable.

In formulating these solutions, it is also crucial to take into account the Preamble of UNCLOS 1982 particularly paragraph 1 and 7 which respectively stated the following:

Prompted by the desire to settle, in a spirit of mutual understanding and cooperation, all issues relating to the law of the sea and aware of the historic significance of this Convention as an important contribution to the maintenance of peace, justice and progress for all peoples of the world,

Believing that the codification and progressive development of the law of the sea achieved in this Convention will contribute to the strengthening of peace, security, cooperation and friendly

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<sup>87</sup> J Evensen, 'Keynote Address' in BH Oxman and AW Koers (eds), the 1982 Law of the Sea Convention: Proceedings Law of the Sea Institute Seventeenth Annual Conference (Law of the Sea Institute) xxvii.

<sup>88</sup> United Nations Convention on the Law of the Sea 1982, Article 312(2) and 313(3).

<sup>89</sup> Nguyen Thao, "Sea-Level Rise and the Law of the Sea in the Western Pacific Region." *Journal of East Asia and International Law*. 13(1), 2020, p.128

<sup>90</sup> Rozemarijn J. Roland Holst, *Change in the Law of the Sea Context, Mechanisms and Practice*, (Leiden, The Netherlands: Brill Nijhoff, 2022), 2022, p. 5



relations among all nations in conformity with the principles of justice and equal rights and will promote the economic and social advancement of all peoples of the world, in accordance with the Purposes and Principles of the United Nations as set forth in the Charter,

In the arduous challenge of sea level rise, member states should in mutually cooperating and work together in creating progressive development of the law of the sea which should be within the purpose of advancing all peoples of the world. There should be a shift in the mindset of the member states and the international law committee to find the future ideal laws, governance and solutions in tackling the issue. In the future, it is hoped that Indonesia as the leading archipelagic state able to create breakthroughs and innovations whether in practical or legal measures to face the rising sea level which can be followed by other archipelagic state, formulating a *de lege feranda* in the archipelagic state governance in the face of sea level rise.

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