

Rising Sea Level, Receding Boundaries and Freezing Baselines in a Warming Climate

Abstract

This paper discusses the less publicised but far from less significant, an issue of how the international community's approach to maritime boundary delimitation will be impacted by climate change resulting in sea level rise with coastal lands submerging affecting the international boundaries and impacting on biodiversity and human survival in the future. The climate change effect is already creating pressure on international law regardless of the direction that the law of the sea takes in remedying this dilemma. It is quite apparent that global disputes and conflicts are arising and solutions are needed urgently. In this essay review, the common enemy is climate change and the consequent global sea level rise that is widely touted to submerge islands and coastlines without discrimination. The rise in sea level will affect maritime boundaries and coastal biodiversity changes that will incite the response from the international community in dealing with climate change? It could be suggested that the international community has been relatively slow to react to what could pose an unprecedented threat to human civilisation. The policies that have been applied have arguably been reactive and not proactive. In future climate change may develop other by products which may not be understood at this moment and may require proactive approach. While sea level rise is an emotive focal point, it is often in the context of the displacement of peoples who are most vulnerable to these dramatic environmental changes. Further discussion of the merits of the potential paths is ideal in ensuring that appropriate and well thought-out resolutions are negotiated. This essay article will discuss a brief introduction of the context behind the law of the sea and its relationship with climate change and critically analyse the two antithetical proposed resolutions most often seen as the most logical paths for differing reasons and with variable levels of support.

Key words: Rising sea level, receding boundaries and freezing baselines

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I INTRODUCTION

36 The Industrial revolution is often held to be one of the most influential periods in recent
37 history, predominantly for its economic and social effects occurring roughly 250 years ago.
38 But this rings true in an environmental context as well. The impact of human activities
39 during this period (*Anthropocene* period) represents a figurative blip on the radar of the
40 earth's existence, yet arguably has the greatest effect on the earth's ecosystems.² There is
41 irrefutable evidence that, the coastlines of the future will differ greatly to the coastlines of
42 today. This is not necessarily a new phenomenon. Scientific studies illuminate that sea
43 levels have been greatly variable throughout the existence of oceans on Earth. But it was
44 in the 18th and 19th Centuries that humans began to have an undue influence on the rate
45 at which the sea was rising. Since this time, thirst for fossil fuels has had the undesirable
46 effect of greatly contributing to CO₂ and methane gases emissions and depleting the ozone
47 layer. NASA climate scientist Jim Hansen has stated that the "greatest threat of climate
48 change for human beings lies in the potential destabilization of the massive ice sheets in
49 Greenland and Antarctica."³ The accelerated breaking up of these ice sheets has been widely
50 scientifically linked to anthropogenic climate change, and this essay will, therefore, continue
51 without much further debate on this topic. The notion of unstable coastlines was evidently
52 contemplated by the drafters of the United Nations Convention on the Law of the Sea
53 (herein referred to as UNCLOS 1982). Specifically, article 7(2)⁴ expressly considers this
54 idea. Bird and Prescott suggest that this should indicate some degree of foresight regarding
55 sea level rise in the treaty.⁵ There is some literature proposing that there is a "negative
56 implication" under UNCLOS that when a feature becomes submerged, baselines would
57 have to be redrawn to reflect this.⁶ The same would apply to islands that lose their
58 capacity to fall under the definition of island as per article 121(3) of UNCLOS 1982.⁷
59 Coastlines were well acknowledged to be a dynamic feature, but it could perhaps be
60 suggested that there is a minute element of contradiction in the placement of "appropriate
61 points" in order to establish a coastal state's maritime zones.¹⁰ This statement is not designed
62 to criticise the current regime, as it has clearly been a serviceable approach to the definition
63 of maritime boundaries and zones since its inception and pragmatism may invite a level
64 of hypocrisy. However, in a physically changing world, a new regime may be required to
65 affront the situation at hand. What this regime will constitute is a source of some
66 divisiveness.

67 In a world where the sea levels are rising and it is almost universally acknowledged that,

68 due to the lag in the planet's response to human impacts, even if significant reduction to
69 CO2 emissions were made overnight, the effect of such changes would not be
70 noticeable until many years later.⁸As consumption of fossil fuels continues to increase,
71 it is clear that the challenges that currently face humankind are only going to get worse,
72 before they get better.⁹This has led to widespread calls for clarity and certainty for the
73 potentially turbulent decades/centuries to come. This may come in the form of the
74 'freezing' of baseline; a somewhat ironic term seeing as it is the warming of the planet that
75 may necessitate these changes. These calls for the freezing of baselines, as mentioned
76 earlier, deviates from the traditional 20th century approach to maritime boundary
77 delimitation. It also somewhat contradicts that the prevailing notion of ambulatory
78 baselines. One of the core concepts of maritime law is that the points which determine how
79 a maritime boundary is drawn will be subject to change to reflect their physical position.
80 With sea level rises expected to be anywhere up to a meter¹⁰, even by "conservative"
81 estimates¹¹, the predominant argument in favour of freezing baselines as they are (or were)
82 at a particular date aims at providing much needed consistency in a field that has been
83 lacking in this quality in recent times.¹²

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85 Natural resource acquisition and distribution has on modern international politics that has
86 predominant factor, whether expressly mentioned or as an ulterior motive in the majority
87 of international maritime boundary disputes. As resources diminish and once plentiful
88 reserves are exhausted, it is safe to say that competition will only grow.¹³ Resources are
89 bountiful in oceans and seas around the globe and may provide expansive economic
90 benefit for the state in whose possession the area resides. With this in mind, maximisation
91 of territory is always at the forefront of any rational state's international agenda. Applying a
92 realist approach to this issue, states will endeavour to fulfil their own national interests,
93 often at the expense of other states, and there should be no inherent negative to this because
94 states have the right to do this. On the contrary, if these national interests can be attained
95 in a manner that adheres to global norms and legal requirements, there ought to be no
96 stigma attached to these goals. However, even in a field that is mostly governed by
97 overarching legislation, there continues to be inter-state disputes that, in the context of
98 modern diplomacy, have the potential to add to already simmering tensions between
99 these states.¹⁴ One of the most prevalent of these is the Sino-Japanese relations in recent
100 decades. There have long been disagreements between China and Japan, and along with

101 these disagreements comes a persistent fear that these disputes may boil over into more
102 serious conflicts in a region seen by many to be a volatile one. The importance of
103 maintaining stability in this region often goes under-appreciated. Particular attention is
104 often paid to the clusters of islands and nearby low-tide elevations in the South China
105 Sea known as the Spratly Islands (in the southern area of the sea) and the Paracel
106 islands (to the north). But there is also the Okino-tori Shima dispute in the Philippine Sea,
107 which poses a more direct threat to Sino-Japanese relations than the two island groups
108 mentioned earlier.¹⁵ This low-lying reef has the capacity of generating significant EEZ
109 rights, but there is scepticism around whether or not these structures should possess this
110 capacity and Japan has spent an estimated \$600 million in ‘strengthening’ the reef
111 and ensuring it remains above tide.¹⁶ This “manipulation of international law”¹⁷ is,
112 however, at risk of being made inconsequential in the wake of a rising sea. The reef is
113 likely to be wholly inundated in the relatively near future owing to its extremely low height
114 above sea level. Japan’s tentative claim to the reef, and its subsequent EEZ entitlements,
115 adds an extra dimension to the dilemma.

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II FIXED BASELINES: BUSINESS AS USUAL

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As mentioned earlier, coastlines have long been held to be ambulatory in nature, and this has not been challenged to any significant extent since the implementation of UNCLOS in 1982. However, it is clear that a very real challenge is being posed to this existing regime by global warming. There are two prevailing schools of thought regarding the future of maritime boundary delimitation: that the existing regime ought to continue to be in force, or that, in order to provide future consistency, baselines should be ‘frozen’. Although there is evidently a shifting of support away from the existing regime to the latter of these options, it would be naïve to discuss the dilemma without due consideration to maintaining the existing regime. When provided with two such distinct options, in the majority of cases the status quo in international law is the preferred path when pitted against change. This is because the world thrives on stability and certainty. Ambulatory coasts have been a tried and true concept in international maritime law and, whilst not always perfect, this notion has provided the consistency that strengthens international law.¹⁸ As global warming continues to take its toll on both the social and economic facets of society, perhaps maintaining a consistent maritime order is the best way to assist in achieving global stability.¹⁹ The importance of this branch of international law in

134 contributing to this stability is often underplayed. So, therefore, it appears that one key
135 question arises: Is this consistency to be achieved through a business as usual approach, or
136 would it be better achieved through making the baselines themselves consistent by freezing
137 them?

138 In 1994, UNCLOS, the preeminent treaty in the existing framework, finally came into
139 effect; 21 years after the third United Nations Conference on this matter was convened. In
140 fact, we are closer in time to UNCLOS coming into effect, than Arvin Pardo's seminal
141 1967 speech was. His urging to avoid "escalating tension" are reminiscent of what could
142 occur in a future of maritime boundary uncertainty.²⁰ This time frame also illustrates the
143 sheer length of time often involved in devising international conventions. It is also
144 notoriously difficult to garner the support of a sufficient number of states to make an
145 international convention worthwhile.²¹

146 In attempting to maximise involvement in a regime of frozen baselines, the agreement
147 could be at risk of becoming too compromised and diluted as states aim to get the best deal
148 and protect their national interests.²² States would approach this opportunity tentatively,
149 and it must be acknowledged that some states could potentially have a net disadvantage
150 under the new proposal. Some pre-existing disputes may be settled by a new regime,
151 but to the detriment of one state. And in the world of maritime boundary delimitation
152 where losing possession of even a small coral reef could mean losing 150,000 square miles
153 of its exclusive economic zone,²³ a cautious approach to reform is entirely understandable.
154 It has even been suggested that Bangladesh, in the event of a 1.5m rise in sea level,
155 would have extended access to a number of oil and gas reserves in the Bay of Bengal
156 assuming their practice of using straight baselines is legally permitted in such
157 circumstances.²⁴ A stronger opposing argument could be made, however, that Bangladesh
158 would not really be benefitting in this situation as its capital Dhaka would be at risk of
159 being submerged.²⁵ Even a meter sea level rise would flood 17% of Bangladesh's land
160 mass,²⁰ resulting in mass displacement¹⁵ and loss of fertile arable land. Factoring in the
161 increase of severity in weather events would only exacerbate the losses suffered by such
162 low-lying coastal states. It must be remembered that a rising sea will not discriminate
163 between states. Whereas China may benefit from Japan losing Okino-tori Shima, Shanghai
164 would also be at risk of being flooded. Perhaps when factoring in these details, a unanimous
165 consensus may not be unattainable after all. A status quo approach is arguably ignorant to
166 the fact that the climate is changing, and the world would benefit if international law could

167 keep up with this change.

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169 There is also a claim that states will suffer significant economic costs in fixing boundaries
170 as opposed to allowing them to remain ambulatory. This is tied to the costs involved in
171 developing accurate charts and precise satellite imagery that reflects their new ‘frozen’
172 boundaries. As Caron argues, however, the costs associated with maintaining
173 “uncertain boundaries” could very well offset these merely monetary expenses. The risk
174 of “eternal litigation” increases with ambulatory baselines, and with this, the
175 aforementioned global stability that is so desired is threatened. In addition to these claims
176 of extensive costs, it can be argued that the “wasteful spending”²⁰ undertaken by Japan in
177 protecting Okino-tori Shima justifies having the boundaries frozen. Perhaps not
178 specifically for this particularly tentative claim, but for other low-tide elevations and
179 drying reefs that risk being submerged in the coming decades, the freezing of boundaries
180 could prove to be a more affordable choice than attempting to ensure that their low-lying
181 objects can support the economic activity required for it to maintain its status under
182 UNCLOS.²⁶ The case of Okino-tori Shima bears a resemblance to the United Kingdom’s
183 claim to Rockall – which as the name suggests, is not much more than a large exposed
184 granite rock in the North Atlantic Ocean – in 1955. In this case, the UK was attempting to
185 maintain its claim to Rockall’s EEZ, but upon its ratification to UNCLOS in 1997, this
186 was no longer possible. The UK had a period where they stationed royal guards there in a
187 display of their claim, but this was evidently fruitless. As is common- place in international
188 law, states will go to seemingly illogical lengths to protect their national interests. While
189 Rockall will not be at risk of submergence for quite some time, there are clear
190 similarities between the UK’s actions and Japan’s protection of its reef.

191 **IV FREEZING BASELINES: THE BEST WAFORWARD?**

192 The majority of academic literature on this topic is clearly in favour of a shift away
193 from what has been the norm for coastal states utilising the straight baseline system
194 under UNCLOS 1982. Evolving to a regime of freezing baselines has, in the grand scheme
195 of climate change, been a relatively recent development. For that matter, reacting to climate
196 change has been a comparatively recent development. This is a blight on the international
197 community and it may have permitted the situation to worsen to an irreversible
198 extent. Despite this, action can and should still be taken to resolve the issues that appear
199 almost universally in every facet of civilisation and the environment. There is a level of

200 irony that, in freezing baselines, states are shoring up their ability to exploit natural
201 resources; an activity that has undoubtedly help to create the predicament that necessitates
202 this action. This notion has to be weighed up against the aforementioned idea of global
203 stability. But it appears that this approach would resolve many issues that have plagued the
204 international community, and that the benefits far outweigh any negatives in applying
205 this more consistent proposed regime.²⁰ The most obvious benefit to be had in freezing
206 baselines would be the consistency and certainty it would entail. Once states agreed on
207 their boundaries, there would be no real reason for many more disputes to arise.¹⁶ Once the
208 reform has settled along with the disputes that had arisen out of the reform or any pre-
209 existing disputes, it would be difficult to foresee states possessing the opportunity to
210 concoct new disputes. Clearly this is an idealistic view, but there is a large degree of truth
211 to the statement that consistency breeds stability.²⁷ If states are all in grievance on their
212 maritime boundaries again a difficult task in itself – then there will be a definite reduction
213 in major flare-ups that could threaten geo-political stability in places like Asia this stability
214 is so direly required.

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216 The concept of fairness and equity could also be a victor if this change were to come into
217 force.¹³ In ideal situation, the reform would be a sweeping one, where all those boundaries
218 agreed upon at a certain date to be in force indefinitely. Fittingly, just as global warming
219 does not discriminate against states, neither should these reforms. The question then arises:
220 how would such a reform be devised and enacted? Naturally, different parties would want
221 different outcomes. This could complicate any planned legislative reform. In addition to
222 this, any proposed reform would be far-reaching and could undermine or at least contradict
223 a large part of UNCLOS and the other components of the over-arching law of the sea
224 framework. This could lead to another major overhaul of maritime law similar to that
225 experienced in the middle to late 20th century. Caron, however, summarises his arguments
226 by saying that fixing boundaries would be equitable as “it preserves the allocation of
227 authority over the oceans”, a system which is deemed to be rather fair.²⁰

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229 What would be required to bring this change to fruition would be convening an open
230 meeting under the auspices of the United Nations with a maximisation of involvement to
231 ensure that all points of view are heard and understood and to ensure widespread
232 consistency and equity is achieved to the best of their ability. This is no easy achievement

233 and it should not be expected that a panacea-type outcome will be reached within a short
234 time-frame. Beginning of discussions, however, should take place as soon as practicable.
235 The benefits of such an overhaul to the existing system are there for all to observe
236 and analyse. There will undoubtedly be a fair share of opponents to an approach that could
237 be seen as quite an altruistic sacrifice by some parties. Expecting states to commit to such
238 an endeavour would be somewhat optimistic to say the least, but in order to minimise
239 future disputes coming from this proposal, this is the possibly the most suitable avenue.
240 Bird and Prescott suggest an alternative policy that could be employed by coastal states
241 which they term “masterly inactivity”.²⁸ This would entail effectively not reacting and
242 leaving the boundaries as they are through a sort of implied agreement. This would likely
243 prove a risky strategy as states would not be under any real obligation to not re-evaluate
244 their baseline. It could also contribute to inequity as a state may choose to re-evaluate their
245 boundaries if it suits their own interests, which may impinge or impede on another
246 state’s interests, which in turn would carry an undesirable potential for conflict.
247 The most preferred path, in order to ensure a strongly concretised regime, would be for
248 either an amendment to be made to the relevant treaties, or for an entirely new
249 treaty to be developed and brought into force. There is an unfortunate expectation with
250 international law, however, that such grand revisions of existing practices would take a
251 substantial amount of time, and in such circumstances where a decade could mean sea level
252 rise of anywhere between an inch and a foot, an expeditious resolution should be at the top
253 of the agenda of the international community. This could mean some compromises on
254 significant points, but the importance of this proposed regime should not be
255 underestimated. The certainty that it could provide for the decades and centuries to come
256 would be invaluable. Perhaps in the interim period, an approach similar to the freezing of
257 sovereignty claims in Antarctica could be taken
258 while the international community gathers itself to perfect a more viable long-term
259 method.¹³

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CONCLUSION

262 In conclusion, it is clear that the earth will continue to reveal the full extent of the
263 detrimental impact we have had on it. While this all unfolds, what is required is ‘proactive
264 responsiveness’ in all affected fields. As has been said numerous times, the effects of
265 climate change are not isolated to one facet of life. They are far-reaching and non-

266 discriminatory. Despite this gloomy outlook, there is one issue, the resolution of which is
267 well within the capabilities of the international community. The inflaming of tensions that
268 are already at boiling point is one indirect impact that climate change will undeniably
269 have in the form of its effect on maritime boundaries. Avoidance of conflict is always to be
270 strived for to ensure a harmonious planet, especially when competition for ocean
271 resources increases. The onus is on the international community; a call to arms
272 reminiscent of Pardo's famous plea to the UN in 1967. What is likely, at least at this
273 stage, is for a fixing of the existing maritime boundaries, a notion which will be aimed
274 at removing ambiguity and reducing the chance of disputes arising in a future that could
275 ill-afford them. As the effects of global warming become clearer, an element that the
276 international community can control is political stability and genuine efforts should be
277 made to achieve this goal. The most 'accessible' option may be a hybrid approach that best
278 satisfies the majority of states' desires and this should be acceptable as long as it provides
279 consistency. Regardless of the outcome, thorough debate is required to ensure the correct
280 decision is made and that the balancing act between fulfilling states' interests and achieving
281 a meaningful result does not become detrimental to the solidity and the enforceability of the
282 outcome.

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284 VI RECOMMENDATIONS

285 There is need to establish comprehensive framework for ocean governance for management
286 and long-term development and sustainability. This involves Reformulating and re-evaluating
287 of policies, legislative framework and concept for the governance of the ocean spaces and
288 marine resources for effective governance of resources within maritime zone and lastly,
289 reviews of the out-dated law, policies with criteria involving stakeholder, review based on
290 scientific data and well spelt out responsibility of agencies.

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