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Title: An Orphan Problem Looking for Adoption: Responding to Ocean Acidification Utilising Existing International Institutions

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Author's Response to Referee #2

I would like to take the opportunity to thank Dorothee Herr for offering thoughtful and helpful comments on this paper. They have been useful in clarifying the aims of the manuscript and thinking about its structure and purpose. Many of the comments seem to come back to the central question relating to that aims and why certain things been included and others excluded. This, I hope, has been answered in the table below.

Referee #2 Comments	Author's Response
Much of what is discussed in 5, could also be listed under 4. UNCLOS for example, UNFCCC Loss and Damage mechanism.	These two sections are subtly different. The first (section 4) outlines policies and mechanisms that are currently in use and are inadvertently providing a response to ocean acidification. The second (section 5) explores existing mechanisms that are currently not being utilised in a way that is addressing OA (either with purpose or inadvertently). This section, therefore, proposes ways to use existing mechanisms in a response to OA. The UNFCCC Loss and Damage mechanism is included in this section because it is still in the embryonic phase and is yet to be implemented. Thus, it is deemed to be a mechanism that can be utilised in the future to respond to OA. The differences between these two sections will be further clarified in the paper.
There is no reference to the IPCC reports and explanation why the IPCC AR cover OA quite well, but the COP doesn't	The aims of the paper have been clarified to include only the activities of treaty bodies and not intergovernmental organisations, including the IPCC. Thus, the activities of the IPCC are beyond the scope of this paper. However, the OA relevant activities occurring within SBSTA will be elaborated upon.
No reference to the new Special Report on Oceans (not sure if it has to do with the timing of the submission)	Please see comment above.
No reference to SDG, SDG 14 in particular	Please see comment above. SGD 14 along with the Special Report on the

	<p>Oceans and the work of the IPCC are all important elements of the broader governance architecture related to ocean acidification. However, as this paper is interested in treaty related activities only these are beyond the scope. These are all fodder for future discussions looking at the broader governance architecture.</p>
<p>Re. the CBD Work Programme on Marine and Coastal ecosystems, it surely has more info re. non-OA action relevant to OA.</p>	<p>Yes, the work programme has many activities of relevance to adaptation and resilience etc. These can be more fully considered, however, it is beyond the scope of this paper to consider each in an individually. With that said, the Work Programme will be discussed in more depth in the co-benefits section.</p>
<p>CCAMLR has some specific Climate resolutions or alike as well.</p>	<p>Activities of relevance that have occurred under CCAMLR will be included. However, these activities can be categorised as knowledge production and awareness raising, rather than rule-making or implementation. New text: “Ocean acidification has also appeared in the work of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the decision making body of the Convention on the Conservation of Antarctic Marine Living Resources (CAMLRL) since 2009 when in a resolution the Commission acknowledged that increased ocean acidification will result in possible impacts for marine ecosystems. Ocean acidification was subsequently discussed in the 2010 meeting of the Scientific Committee, at which a number of observer organisations expressed concern over the increase in ocean acidification and its likely impacts. The Commission further noted the potential importance of ocean acidification and that it is an important issue to consider with regards to the impact of climate change and requested that it be included in a Joint CCAMLR-SCAR Action Group. The Commission has also discussed the role that of the designation of marine protected areas and marine reserves can play in boosting species’ and ecosystem resilience in the face of ocean acidification. Ocean acidification has also received attention under the Scientific Committee where it has been addressed with regards to its likely impacts on krill and a number of reports have been prepared by the Working Group on Ecosystem Monitoring and Management to examine this issue. “</p>
<p>CCAMLR and OSPAR are regional, but there are more regional efforts out there, why only look at</p>	<p>These two treaties have been included as they have initiated activities around ocean</p>

them?	acidification, which has not been seen in other regional treaty bodies. However, the Nairobi Convention will also be included as it explicitly mentions OA in its treaty text – the only treaty to do so.	
Suggested Recommendations:	The Rio Conventions report to each other – make OA a topic?	Yes, this is an important suggestion that will be incorporated.
	An OA Convention is not feasible, what about a global OA Commission under UNCLOS?	This is an interesting idea. Would this need to be created via a new implementing agreement? What would the role of the Commission be? To coordinate between regimes? Certainly something to think about, however, beyond the scope of this paper as it is looking at already existing mechanisms, this would involve the creation of a new one.
	Who can ensure the ‘mainstreaming’ of OA in relevant national policies? Is it a matter of having an NGO OA watchdog looking across the Conventions to ensure action and raise awareness?	This role could be played by an NGO or perhaps even incorporated into the work of OA-ICC via a database analogous to the Climate Change Adaptation Database held by the CBD. Again, a very interesting discussion, but looking at national activities and that of NGOs/IGOs is beyond the scope of this paper.