

Overall, there are some interesting results here. I think your findings on P/N ratio and extension rate are the most interesting in this paper, however, it seems a bit overshadowed by your discussion on external and internal saturation state. Unfortunately, you just don't have the data to support your long discussion on that topic, although it makes a nice hypothesis. You need some sort of saturation state data to back up your claims about low omega reducing calcification. If you can't find anything in this region, I suggest you remove the discussions focused on this and rewrite as one paragraph introducing your hypothesis. There is plenty of interesting data in the relationship with P/N that I don't think the long discussion about saturation state is completely necessary. Check the following sites for carbon chemistry data:

<https://www.socat.info/>

<https://www.ncei.noaa.gov/access/ocean-carbon-acidification-data-system/>

<https://www.bco-dmo.org/project/2099>

Check grammar and word usage carefully throughout, there are a lot of strange word choices and grammatical errors. Some specific examples are below, but please make sure to read your manuscript carefully and look for other errors.

L31: I wouldn't use 'coralline' here as it could be confusing with crustose coralline algae

L34: Replace 'on' with 'to', remove 'contemporarily'

L54: I think 'savage' should be 'sewage'

L55: Replace 'versatile' with 'diverse'

L63: This is a bit confusing as written, please rewrite to make clear that eutrophication along the off-inshore gradient is inhibiting calcification where there are more nutrients.

L61: Use another word than 'versatile', e.g. diverse, different, various

L68: 'Heralded' is an awkward word choice here

L74: Remove 'solely'

L76: Start a new paragraph with 'In the here presented study...' Also, reword that phrase to 'In this study'

L136: Is 'tournament' the correct word here?

L180: Change 'accordance' to 'agreement'

L269: 'Curse' should be 'curve'

L273: Why is 'forereef' in the reference?

L277: 'A generally enhanced...' reword this sentence to make it more clear what you are trying to say

Fig. 6 legend: Should coral growth temperatures just be sea surface temperatures?

L286: Font or text size change is apparent in the pdf

L309: 'Nonetheless, published...' this sentence needs to be reworded for clarity

L311: Remove 'however' after 'in contrast'

L314: '...were well related...' awkward phrasing

L314: 'quality of correlation' what correlation specifically?

L331: 'brought up no unambiguous' awkward phrasing

L364: Replace 'rather' with 'likely'

L365: I would refrain from citing personal communication about seawater chemistry data, you could rephrase as a hypothesis

L426: 'The here presented data' change to 'Our data'

L439: Remove 'too'

Section 3.2: The use of abbreviations makes reading comprehension a bit difficult at this point. I would suggest that you try to avoid using so many abbreviations and write some of these out. For example I couldn't remember offhand what SIM, AIM, SWM, and NEM while reading this section. Try to only use easy to understand and general abbreviations (e.g., SST).