

Feedback

I commend the authors in the amount of work they put into this new draft. My overarching feedback at this stage is that a manuscript should aim to be “easy” for a reader - state explicitly what you mean, explain what the takeaways from each figure should be, outline exactly how you came to major decisions, and important results or background may be worth repeating. All those areas have been improved upon significantly in this draft, my feedback focuses on a couple areas that I still think could be made easier. I think that with these two relatively small edits that the paper will be ready for publication.

Evaluations with SalishSeaCast

Some limitations of SalishSeaCast that may impact HOTSSea have been added, but focus on model design choices or NEMO idiosyncrasies, not on how those impact overall model accuracy. Your discussion of the salinity bias observed in figure 4 (line 675) is effective in outlining that a significant portion of the salinity bias is inherited as well (I would suggest referencing figure 4 again somewhere in lines 831-835, because that is where the inheritance is shown most clearly). I understand your hesitancy to perform or outline specific evaluations of SalishSeaCast, you are right in saying that it is not within the scope of this paper; however, stating explicitly in the methods section the specific (previously reported) aspects of SalishSeaCast that may impact the accuracy of HOTSSea would add credibility to your evaluations. Overall, this concern has been much improved upon.

Puget Sound

In the introduction you discuss the ecosystem model focused on the Strait of Georgia being the motivation for HOTSSea, but in the same paragraph you explain that the spatial domain chosen to work effectively with this ecosystem model encompasses all the Salish Sea (including Puget Sound). As such, I don't think that this section in the introduction sufficiently explains to the reader why Puget Sound was left out of your analysis. As it currently stands, the reader would need to already have a keen understanding of Salish Sea circulation and to take the same logical steps that you did without explanation (ie. since the Strait of Georgia is the focus you need to get Juan de Fuca and the Gulf Islands right but Puget Sound is probably less important).

Earlier, on line 88-91 you state “It is therefore one aim of this study to develop a physical hindcast with a spatial-temporal resolution that enables a long hindcast while maintaining acceptable model skill for supporting marine ecological research and ecosystem management.” This line comes directly after you explain that previous hindcasts have been

performed for Puget Sound. I think that said line might be an appropriate location to express that performing an accurate hindcast within Puget Sound was deemed less important than for the other regions.

As there is quite a bit of data available in Puget Sound, just not collated for the purpose of this project, and since a comparison to SalishSeaCast results within Puget Sound would have been possible, I don't think that data availability on its own is a reasonable explanation for the lack of Puget Sound evaluation. State explicitly how you decided that while Puget Sound had to be included in the model domain, that an evaluation of it was a lower priority and outside of the scope of this paper.

Smaller comments

- “Hare” should be “Haro” in table 4
- Your discussion of the differences between v0.12, v0.14, and v0.16 has been made much clearer.
- Discussion of the spatial scales required to study salmon strengthen the motivation of the paper!