

# ***Interactive comment on “A climate index for the Newfoundland and Labrador shelf” by Frédéric Cyr and Peter S. Galbraith***

## **Anonymous Referee #2**

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The objective of this paper is to combine 10 climate subindices into a new index for describing the environmental conditions on the Newfoundland and Labrador shelf. Generally, the manuscript is well written and easy to follow. The authors devote a lot of space and figures to describing the 10 subindices. However, the significance of introducing such a new index is ambiguous. The literature review is not comprehensive and too simple. There are some critical points to be clarified. Additional assessments are also required to verify the reliability and superiority of the new index. Therefore, major revision is warranted before publication.

Specific comments:

1. The sections of Abstract and Introduction are too simple. The research gap and motivation of this study are missing. Are existing indices not good? It is desired to clar-

ify the deficiency of previous indices, even though the authors claim that the proposed index has been used in annual reports on the physical oceanographic and meteorological conditions.

2. Line 3: The contribution of the 10 subindices is equal. Is it reasonable? Please explain.

3. The proposed climate index is introduced in a previous study by the authors and their colleagues. I find that the previous study is similar to this paper. Please explain the difference between them.

4. The authors give too many details on the 10 subindices in Section 2, but there is no statement on the methodological contribution. I am also confused about the calculation of the proposed index. How is the index calculated based on the 10 subindices?

5. Lines 181-182: "The sign of some subindices have been reversed". Is this a common procedure?

6. Figure 13 and Line 215: Figure 13 indicates that quite a few subindices are correlated significantly, so I disagree with the authors' statement that the subindices are "relatively independent".

7. Figure 14: The authors compare the proposed climate index and the CEI, and find a good correlation between them. So, what is the superiority of the proposed index? Is it better than previous indices?

8. Line 221: Why is the new index useful for ecosystem studies, fish stock assessment, and forecast models? According to the Introduction section, the new climate index is designed to better inform fisheries scientists and managers. However, there is little related evaluation in the paper. Please provide more related background or evidence.

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