

## ***Interactive comment on “The Arctic Front and its variability in the Norwegian Sea” by Roshin P. Raj et al.***

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Review on the paper “The Arctic Front and its variability in the Norwegian Sea” by Roshin P. Raj, Sourav Chatterjee, Laurent Bertino, Antonio Turiel, Marcos Portebella

The paper is devoted to position clarification of the Arctic front in the Norwegian Sea based on TOPAZ Reanalysis data as well as satellite and atmospheric reanalysis data. Authors apply a new method of front detecting using so-called Singularity analysis. The results obtained are plausible and they are of great interest to specialists. The paper is written in good language and well illustrated. Thus, I suggest that this paper might be published with minor revision.

Below I offer a few comments on the text of the article that can be taken into account

C1

by the authors.

P 2, line 13. “The NwAFC on its way to the north encounters three deep currents (Fig. 1), one over the Mohn Ridge flows in the opposite direction”. – Second part of this statement must be confirmed by the appropriate links.

P 2, line 25. It seems “The location of the AF in the Norwegian Sea coincides roughly with the topography along which the NwAFC flows” is not a good phrase for the reader.

I suggest that the item 3.3 Singularity analysis should be described more detailed since this method is very few used and new. It is unclear main differences the Singularity analysis from the method of maxima gradients of scalar parameters to estimate front location. This is optional, but it would be good for the reader of the paper. An online service provided by the Barcelona Expert Center (<http://bec.icm.csic.es/CP34GUIWeb/>) is a Private Zone and cannot be checked.

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C2