

Interactive comment on “Tracking winter extra-tropical cyclones based on their relative vorticity evolution and sensitivity to prior data filtering (cycloTRACK v1.0)” by E. Flaounas et al.

Anonymous Referee #1

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General comment: The paper documents a new algorithm for extratropical cyclone tracking and the effect of the initial filtering for dataset. In my opinion, to scientific journals such as Journal of Climate or Climate Dynamics, this paper has an insufficient material for new findings in meteorology and does not clarify the point. However, I guess that this journal is just for a technical report, and then, in this meaning, I really evaluate this paper as publication with a single major comment and a couple of minor comments.

Major comments: The authors only mentioned the sensitivity of initial filtering, but there are many tuning parameters in the tracking algorithm. Though the authors claimed as few parameters implemented in the algorithm as possible, I found many subjective

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settings there. The sensitivity for other parameters should be additionally commented in the discussion. Satake et al. (2013) might be a good reference.

Minor comments: 1) Equation (1) is a mathematically incorrect expression. Is $1/X$ to be $1/(2X+1)$? Moreover it should be remarked that a spatial filter of 1-1-1 by 1-1-1 used here is not always a good spectrum property.

2) Figure 7 (including legend) and related sentences in the body do not use PDF but frequency distribution because these are not density.

Satake, Y., M. Inatsu, M. Mori, and A. Hasegawa, 2013: Tropical cyclone tracking using a neighbor enclosed area tracking algorithm. *Mon. Wea. Rev.*, 141, 3539–3555.

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