

We thank the reviewer for reviewing carefully our manuscript again. . In the following, the reviewer's comments are reproduced, in light grey and in italic, before each reply.

1) I had misunderstood that SETC were excluded from the other category. In that case, I agree with the WETC naming, I would just suggest you make sure this exclusion is clear in the text.

We modify the text accordingly, lines 171-173:

"All remaining ETC not classified as SETC (815 cyclones) were assigned to a separate group, labeled Weak ETC (WETC). Thus, SETC and WETC are disjoint subsets of the ETC population, with no overlap between them."

3) I realize that there is potential for misunderstanding when talking about six hourly time steps. I would suggest making extra sure to avoid this confusion by using "six 1-hourly time steps" or "6 one-hourly" time steps, or any mix that does precise the one/1.

We modify the text accordingly lines 123-128:

"In the present study, following the work of Cavicchia et al. (2014a); Gaertner et al. (2018); Picornell et al. (2014); Walsh et al. (2014), we define Deep Warm Core Cyclones (DWCC) as cyclones that, during part of their lifetime and while over the sea, develop a deep warm core, such that both $-VI$ and $-Vu$ are positive for a minimum duration of six hours. Owing to the hourly temporal resolution of the ERA5 dataset, $-VI$ and $-Vu$ are evaluated at each individual hour of the cyclone lifetime. Consequently, classification as a DWCC requires that a cyclone exhibit a deep warm core for six consecutive 1-hourly time steps."