We would like to thank both Reviewers for their fruitful comments and constructive suggestions. Their contributions have greatly improved this manuscript.

**Reviewer #1**

*The authors have carefully considered the feedback from the previous round of revisions, and the paper is now ready for publication.*

*Technical edits:*
*L306 - This paragraph is very long - perhaps start a new paragraph from "It is noteworthy"*

Agreed. The paragraph has been modified accordingly.

*L620 - The Data Availability section has been misplaced, and should be moved to after the conclusions*

Agreed. The text has been modified accordingly.

*Optional edit: Bogus tracks*

We thank the Reviewer for this comment and agree with them that it is not adequate to introduce "Bogus tracks" in the abstract. The paragraph has been modified to address the comments below.

*Both reviewers questioned the term "bogus tracks", and your responses suggested that many of these may be better understood as weak systems - e.g. Figure 3f shows a clear SLP minimum even after the composite track has ceased. While your wording is ultimately up to you, I recommend you at least remove the term "bogus" from your abstract, saving it for the main text after it has been adequately defined.*
*L40: The same general idea could be conveyed by "More than that, it is typical for CDTMs to produce a non-negligible number of tracks of weak atmospheric features, which do not correspond to large or mesoscale vortices and can differ significantly between CDTMs. Lack of consensus in CDTM outputs and the inclusion of significant amounts of uncertain tracks therein, has long prohibited the production of a commonly accepted reference dataset of extratropical cyclone tracks."*
*L54: The sentence "This suggests…" could be deleted.*
*L60: remove the segment "and including a minimum number of bogus tracks"*

**Reviewer #2**

*Review on "A composite approach to produce reference datasets for extratropical cyclone tracks: Application to Mediterranean cyclones" by Flaounas et al.*

*Overall, the authors have carefully considered my previous comments and have revised the manuscript in a suitable way. I thank the authors for doing so. I only have a few comments remaining, most very minor. The two exceptions are:*

*1. In my opinion, my previous comment #1b concerning which tracking algorithms have been*

*designed specifically for Mediterranean cyclones, has not been fully dealt with. This information should be included clearly in the main text, not in an Appendix where it is not particularly clear which methods were designed specifically for Mediterranean cyclones. It could possibly be added to Table 1 as well as mentioned in the text.*

We agree that it is important to stress this information in the main text. Table 1 has been updated accordingly.

2. *I still do not think the authors answer my previous comment #1a of whether this method is* ***necessary*** *in all regions. The manuscript now discusses whether this method would work and how appropriate it would be and while I appreciate the addition it is not the same thing. However, I also appreciate to answer this thoroughly would require extensive work which is beyond the scope of this manuscript. However, a comment about whether this method is needed / is necessary everywhere could be added to the discussion e.g. near line 710.*

Indeed, the discussion we added in the last section about the "300 km distance threshold" does not explicitly address their comment. However, identifying our method as "necessary" -in the Mediterranean or other regions- would be a rather strong statement. To better address the Reviewer's concern, we added the following text at the beginning of the paragraph that discusses the 300 km distance threshold.

*"The conformation of the Mediterranean region triggers peculiar cyclogenesis processes with land-sea contrasts limiting size, intensity and lifetime of perturbations. For those reasons, Mediterranean cyclones are weather systems that bear different characteristics, more than the typical extratropical cyclones developing over the open ocean. However, difficulties in the detection and tracking of extratropical cyclones are also observed in other regions around the globe (Neu et al., 2013). Therefore, we consider the positive aspects of our method to be also applicable in these regions since our approach has no geographical constraints and is not targeting specific cyclone categories. In these regards, the distance threshold of 300 km, that we use to identify similar cyclone track points, is indeed adapted to the size of Mediterranean cyclones but it could be also envisaged for other extratropical cyclones. For instance, let a rather large mid-latitude storm…"*

*Very minor comments:*
*1. Line 101. Could also add coastlines here as well as steep topographic barriers.*

Thank you for the suggestion. We rephrased the sentence as:

"*....(e.g. close to steep topographic barriers and coastlines).*"

*2. Line 140. Many types of cyclones elsewhere in the world also cross continental areas so I do not think this is unique to Mediterranean cyclones.*

Agreed. The sentence has been modified by removing "*when compared to other extratropical cyclones*".

*3. Line 153 – 156. Does hourly resolution really make tracking easier? Aren't many tracking algorithms designed to work with 6 hourly data and hence include thresholds based on this?*

Agreed. The sentence has been removed .

*4. Line 313: "..to gain insights into the maximum of agreement..." There is something missing / not quite right here.*

Agreed. We removed the following sentence to avoid confusion:

*"This was done to gain insights into the maximum agreement that we should also expect from the individual CDTMs, i.e. how much agreement with the subjectively tracked cyclones would be considered as acceptable."*

*5. Line 334. "...that the complexity of cyclone systems is evolving in time...", I don't agree with this statement (or maybe I misunderstand). I would think it is more likely that decreasing percentages as a function of overlap time is caused by the different methods identifying the start of the cyclones at different times.*

Thank you for this insightful comment. We have revised accordingly:

*"The decreasing percentages as a function of overlap time is caused by how the different methods identify the early stages of the cyclone life cycle."*

*6. Line 373 – 378. Is this text really needed? It seems a bit odd here.*

We agree that this part does not add much to the discussion. We removed these lines.

*7. Line 450. M04 also uses relative vorticity as an input field. This sentence should be more specific to state that M07 is the only method which only uses relative vorticity.*

Agreed and revised accordingly.

*8. Line 463. This is quite repetitive – this has just been stated on line 451.*

Indeed, we removed the phrase in line 463.

*9. Line 581: "M01 and M03 contribute to more than half of composite tracks even in datasets with low confidence level". Do you know what is the reason for this? I find it quite interesting.*

Both methods are among those that identify most cyclones per year (M01 ~300 per year and M03 ~500 per year, Fig5a) and that identify fairly similar areas of high spatial track densities (Fig. 6). These aspects increase the probability of higher similarities among these two CDTMs. Indeed, both M01 and M03 have relatively high similarity scores with respect to other CDTMs in Fig. 9. Since both M01 and M03 do not share the same input meteorological fields, preprocessing and filtering procedures, it is hard to identify the exact reasons for the high similarity scores (that inevitably lead to high participation in composite track datasets). Nevertheless, high similarities might emerge from the fact that 1000 hPa geopotential fields (used by M01) are highly correlated with the ones of MSLP (used by M03) and the fact that

both methods retain only the lowest local minima within a region of 300 (M03) and 500 km (M01).

*10. Line 634. I assume time is in UTC? This could be added here.*

Thank you for the suggestion. The text has been modified accordingly.

*11. Line 648. Should cyclone be cyclonic here?*

Thank you for the correction. The text has been modified accordingly using "cyclonic".

*12. Line 692: "in a maritime area over the open oceans". This could be more concise.*

We removed "maritime area" to make it clearer that we mean a track uninfluenced by continental area:

*"For instance, let a rather large mid-latitude storm be tracked by several CDTMs over the open ocean."*

*13. Line 696. Change "far from" to "away from"*

Done.

*14. Line 785, M06. Need to start a new paragraph here. Something has gone wrong with the formatting here.*

Indeed, this was a typo. Thank you for spotting this.The text has been modified accordingly.

*15. Line 801. The -5 and -1 here need to be superscripts.*

Done.

*16. Line 828. Title of Appendix B is hard to see, put in bold?*

It is now in bold.