

Weather Clim. Dynam. Discuss., referee comment RC3
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Comment on wcd-2021-55

Anonymous Referee #3

Referee comment on "Mediterranean cyclones: current knowledge and open questions on dynamics, prediction, climatology and impacts" by Emmanouil Flaounas et al., Weather Clim. Dynam. Discuss., <https://doi.org/10.5194/wcd-2021-55-RC3>, 2021

This review is a thorough overview of Mediterranean cyclones and the many aspects of their climatology, dynamics, forecasting, and impacts. It gives a clear summary of the open research questions and proposes areas for future research focus.

The paper is well-written and enjoyable to read, and contains a wealth of references and important information.

I have a few minor comments and suggestions.

- I suggest to move the climatology section to before the dynamics section. This is because as I was reading the dynamics section, I found myself wondering about when the features most commonly occur and where. This information is provided later in the climatology section, but I think would give a better flow being first.
- In order to summarise the many studies looking at future changes in Mediterranean cyclones, I suggest including a table or a schematic. Section 4.4 gives a lot of information about the different studies that have investigated this question, and it is not easy to discern the overall picture.
- For WCD, either British English or American English are accepted. Most of the paper is written in British English, but there are a few inconsistencies. Please check through for consistency of spelling of e.g. modelling/modeling, characterise/characterize, centre/center, favouring/favoring, Also consistent spelling of parameterization.

Some typographical and text suggestions:

- Line 76: "to" -> "of".
- Line 129 and 131: The abbreviation DI has already been defined so "dry intrusion" can be shortened. Also on line 131 – it states that frontal precipitation is weaker on average, but I'm not clear in comparison with what?
- Line 132: Could the weak precipitation associated with the suppression of convection by the DI?
- Line 209: I'm not sure you need a separate subsection here – this is still about the special case of medicanes.
- Line 216: In the Midlietta and Rotunno paper, how many storms were put into each group? In other words how robust is the classification?
- Sections 2.5 and 2.6 – this is the place in the paper that I particularly was wondering about the climatology and when medicanes preferentially happened.
- Line 362-365: This is a long sentence – consider revising.
- Line 398: "secondary cyclone" is not clearly defined in the paper. In previous sections it seems to be associated with lee cyclogenesis. It would be good to be consistent with terminology.
- Line 512: "Hart diagrams" have not really been defined in the paper.
- Line 524: Sentence beginning "Their formation..." -> "Their formation over the arid areas of North Africa **means** Sharav cyclones **have** a low moisture content and **are** associated with dust storms."
- Line 593: Suggest to start the sentence with "Changes in cyclone frequency/intensity..."
- Line 851: I think "vital" or "important" rather than "mandatory".