

Interactive comment on “Lightning characteristics in Eastern Mediterranean thunderstorms during different synoptic systems” by Y. Ben Ami et al.

Anonymous Referee #1

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general comments:

The Authors present the analysis of six years of lightning occurred in Eastern Mediterranean as detected by the Israeli Lightning Location System (ILLS). The successful strategy of the paper was to group the thunderstorms in 4 different synoptic categories occurring in that region, and to explain the statistical results on the basis of the corresponding thermodynamic conditions of each synoptic system. The result is an interesting and exhaustive analysis that should represent an example of how to organize a paper describing lightning datasets in the meteorological context.

specific comments:

The heterogeneity of the ILLS sensors makes it interesting detailing the approach used
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in the detection algorithm. In page 3659, row 1, it could be added a specific reference, or as an alternative it could be included a description of the algorithm.

A question from Figure 1: Why the Detection Efficiency of ILLS network is better for lower longitudes and higher latitudes (namely over Mediterranean Sea)? Perhaps the previous comment on ILLS detection algorithm could help to explain also this one.

Discussing the dependence of positive strokes' fraction on wind-shear (page 3667, row 28), you do not show the results obtained using the GDAS database. Why? To visualize this piece of information in a figure would help the reader, even because the “tilted dipole” hypothesis is very important in explaining the statistical results.

technical corrections:

page 3658, row 9: replace “Mackarres” with “Mackerras”

page 3667, row 9: replace “Hojo” with “Hojo et al.”

page 3673, row 28: replace “Dmweniza” with “Darveniza”

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