

Interactive comment on “Evaluating the extreme precipitation events using a mesoscale atmosphere model and satellite based precipitation product” by I. Yucel and A. Onen

Anonymous Referee #1

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The performance of the Weather Research and Forecasting (WRF) model is examined in this study by using the Multi Precipitation Estimates (MPE) algorithm precipitation product by considering the extreme precipitation events observed in the West Black Sea Region of Turkey. The use of satellite based precipitation products in hydrological models are unfortunately very rare so that this study is important since MPE use for such purpose is introduced and discussed. The content of the study is well organized so that the paper is sufficient enough to be published in the NHESS. I would recommend the publication of this study in the journal after taking care about the following minor corrections.

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- The spatial resolution of the MPE product is 3x3 km in the sub-satellite point. However, the resolution of the same product is around 5 km over the study area in this study which is West Black Sea Region of Turkey. So, the '4 km' resolution for this product should be corrected as '5 km' throughout the manuscript, such as in page 6980, line 13; page 6981, line 8 and so on.

Page 6980, Line 26: '.. last 50 yr on...' : Did you mean '.. last 50 years on...' ?

Page 6981, Line 2: Change ' As occurring and evidencing on several ...' to ' As it occurs and evident on several'

Page 6982, Line 25: It is better to use the 'GDM' acronym for General Directorate of Meteorology rather than 'MGM' (also in the rest part of the manuscript).

Page 6985, Line 3: Consider changing 'started' with 'run'.

Page 6987, Line 16: Change ' .. number 14 and their results are ...' to ' ... number 14 and the results are ...'

Page 6988, Line 5: It is better to change the sentence 'The MPE provides precipitation data with high spatial resolution at 4 km and temporal resolution every 15 min.' to 'The MPE provides precipitation data with high spatial resolution at 3 km at sub-satellite point and 5 km in the study area while temporal resolution is 15 min.'

Page 6988, Line 7: Change ' The algorithm is only suitable in convective weather situations.' to ' The algorithm provides better results in convective cases than the stratiform cases.'

Page 6988, Line 8: You can delete or better to revise this sentence 'MPE product gives indications where the product should be used and where it may be problematic.'

Page 6988, Line 10: Change '... whole satellite cycle (3712×3712 at 4 km grids) in 15 min to '... whole disc area (3712×3712) in 15 min ...'

Page 6988, Line 12: Change 'MPE estimates are also converted to hourly values by

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aggregating the four 15 min instantaneous rain rates within an interested hour.' to 'The hourly MPE amounts are obtained by aggregating the four 15 min instantaneous rain rates within an interested hour.'

Page 6988, Line 19: Change '... among 25 because ...' to '... among 25 cases because ...'

Page 6988, Line 22: Change '... MPE shows a great match with observation' to '... MPE is in agreement with the ground observation'

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