

Interactive comment on “Comparison of raingauge observations with modeled precipitation over Cyprus using Contiguous Rain Area analysis” by N. Tartaglione et al.

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General comments

The authors wish to verify BOLAM model forecasts of precipitation for a heavy rain event over Cyprus using the CRA method of Ebert and McBride. This object-oriented technique was chosen because it assesses the pattern and volume differences between the forecast and observations for a single event. The results using this method with two different pattern matching criteria (maximum correlation and minimum MSE) were sensitive to the choice of shifting value sv . The pattern matching results using the

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two criteria did not generally agree with each other, although they were close for small values of sv .

I felt that the important message coming from this work is the necessity to use care when applying this diagnostic verification technique. For the particular case examined in this paper, the results using $sv=9$ grid points are probably correct, while the results for $sv=17$ grid points certainly are not. Clearly automated (unsupervised) verification using this technique should not be done when the verification region is small compared to the rain system itself.

Specific comments

1. The model nesting description at the end of Section 2.1 is a bit confusing.
2. In the last paragraph on p. 3 the meaning of “shifting values” may be unclear to readers unfamiliar with this technique. You should explain what it means (i.e. search domain for best match in forecast is the rectangular domain surrounding the CRA +/- sv).
3. 1st paragraph of section 4, last two sentences: This is not quite right. Ebert and McBride said that multiple weather systems over a large domain can lead to misleading interpretations when standard verification techniques are applied, but the CRA approach essentially separates the effects of multiple systems by focusing on the regional domain of each system separately.
4. My experience with the CRA technique using the MSE minimization method in a limited spatial domain is that sometimes the MSE is minimized by moving the forecast maximum out of the domain. This is what is happening in Figs. 7b and 7c. The correlation method does not do this, but it may match gradients better than bullseyes in some cases.
5. I agree with your conclusions that the verification area was too small, especially when the forecast rain field suggests that the scale of the precipitation event was much

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larger.

6. Last paragraph, 2nd sentence: replace “could” with “might”.

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