

Interactive comment on “Influence of targeted observations on short-term forecasts of high-impact weather events in the Mediterranean” by J. Campins et al.

Anonymous Referee #2

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General comments

The paper addresses an interesting aspect of operational numerical weather prediction which is assessing the applicability of data targeting techniques. As operational meteorological observing systems are not operated in an adaptive mode nowadays research on this topic is relevant.

The selection of experiments looks interesting, however it requires a bit more explanation/ motivation (see next section).

Specific comments

C802

After reading the abstract one gets the impression that the authors compared the following experiments (set-up 1):

- control,
- control plus extra radiosonde data,
- control plus extra satellite data,

and that the authors then found a strong beneficial impact when satellite data are assimilated. Although it is not explicitly said there's a certain risk that the naive reader then might conclude that the extra satellite data are more beneficial than the extra radiosonde data.

However, when reading the main paper including the conclusions chapter it seems that the authors assessed the following set of experiments (set-up 2):

- control,
- control plus extra radiosonde data,
- control plus extra radiosonde data plus extra satellite data.

When the latter (set-up 2) is true,

- can the authors please modify the text of the abstract, maybe in the following way: When in addition to extra radiosonde data also more/enhanced satellite data are assimilated...

- can the authors please explain/motivate why they have chosen this set-up 2 and not set-up 1 or the following full set-up 3:

- control,
- control plus extra radiosonde data,
- control plus extra satellite data,

C803

- control plus extra radiosonde data plus extra satellite data.

When the first (set-up 1) is true page 7, lines 26 and 27 need to be rewritten and also the third bullet point in the conclusions chapter (page 26, lines 12 to 14).

Page 30, line 15 and 16:

The sentence "In this study we have not addressed the influence of errors on the determination of the target areas." is unclear and requires rephrasing. Which errors influencing the determination of target areas do the authors think of? Do the authors want to say that the influence of potential differences due to application of differing sensitive area calculation/prediction methods was not addressed in this study? This is at least another potential explanation for the differences observed between MEDEX and PREVIEW cases.

Page 27, line 7:

Please check whether "radiosonde" can and should be inserted. "A positive impact due to targeted radiosonde observations is ..."

Technical corrections

page 3, line 13: Please check whether "data-sparse areas" is better than "sparse data areas".

page 6, lines 15 and 16: the 'Global Telecommunication System' (GTS)

page 7, line 26: replace "that" by "as"

page 8, line 10: Shouldn't this better read "the region where the high-impact weather was expected to take place"?

page 13, line 25: maybe insert "level": "At surface level there..."

page 14, line 8: maybe insert "actually": "...the regions actually affected..."

page 14, line 20: "driving factors" instead of "driven factors"

C804

E.g. page 15, line 2 but several occurrences in the paper: "aircraft" is singular and plural

page 16, line 25: replace "sensitive" by "sensitivity"

page 16, line 25: replace "into" by "in"

page 25, line 27: insert "of": "...a set of observing..."

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 2781, 2013.

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