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Discussions

Interactive comment on "The role of improved soil moisture for the characteristics of surface energy fluxes in the ECMWF reanalyses" *by* Wilhelm May

Anonymous Referee #1

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Recommendation: minor revision

General comments

The study provides an assessment of the impact of improved land-surface scheme and precipitation on ECMWF reanalysis. Two reanalysis systems are compared: the standard ERA-Interim system and ERA-Interim/Land which includes adjusted precipitation and improved land-surface scheme. Both seasonal and regional effects of improved land-surface/precipitation are shown in results. The paper is well written and I recommend acceptance of the manuscript after a couple of specific comments and a few minor/technical points have been addressed.

Specific comments

1) ERAInt and ERAInt/Land differ not only for soil moisture treatment. Therefore the role of improved soil moisture cannot be separated from other differences in the two systems. Please discuss the limitations of the study.

2) Fig. 6: What is the significance level of the correlations?

Minor/technical comments

1) Title: I recommend to change the title to something like "The role of improved land-surface and precipitation for the characteristics of surface energy fluxes in the ECMWF reanalyses" See specific comment 1 above.

2) P1 L7: Change "more realistic" to "realistic"

3) P2 L4: Delete repetition "The coupling"

4) P2 L5: Change "soil moisture and precipitation and between soil moisture and temperature" to "soil moisture, precipitation and surface temperature"

5) P3 L26: Change "are related" to "are compared"

6) Table 1: domain boundaries are the same (10W-10E, 10N-20N) for WAF-S and WAF-C. Please check.

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