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Hydrology and Earth System Sciences Discussions

Interactive comment on "Improvement of surface albedo parameterization within a regional climate model (RegCM3)" *by* Y. Bao and S. Lü

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This paper represents a very useful piece of work in estimating the influence of albedo on climate model results. Albedo is one of the most important variables affecting thermodynamic and radiative processes on earth. Therefore, it is worthy to read this paper and see how they deal with 0.03-0.07 higher albedo and the cold bias of 10-15 Kelvin difference in ground temperature between model RegCM3 and measurements.

I suggest that the paper should be accepted, with minor revisions (like type errors).

Consider rivision in the following paragraphs:

Paragraph 2.3: Is there any initialization period of the simulation? Is the time period of the simulation long enough to draw reliable conclusions? Why 60 km resolution

(explain)? What is the time resolution of the saved results? From figure 6b it is visible that it is 3 hours: mention in the text.

Paragraph 2.4: Why is surface air temperature used for validation? Explain.

Type errors:

P1653, line 2 : meso- scale =>meso-scale. P1654, line 9: factor=> factors. P1654, line 26, second=> secondly. P1655 line 25, evapor-transpiration => evapo-transpiration. P1658, line 13: Research indicate => Research indicates. P1659, line 16: Pleatau => Plateau. P1661, line 5: latend => latent. P1665, line 7: that => remove it. P1665, line 22: albeo => albedo. P1665, line 28: model => models (2x). P1676, figure 6: where is figure 6d? Remove link, or insert figure.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 1651, 2009.