

Interactive comment on “Fully integrated physically-based numerical modelling of impacts of groundwater extraction on surface and irrigation-induced groundwater interactions: case study Lower River Murray, Australia” by S. Alaghmand et al.

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This is a very interesting paper. The analysis of the impacts of groundwater extraction and irrigation, because of climate change and rising of drought hazard in different region of the Earth, will be one of the major natural hazards of this century. The paper has been benefited from a quick editorial review before NHESS discussion. Now, according to the reviewers' comments, it presents critical issues that can be easily fixed.

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The authors need to clarify few sections and check carefully all the detailed comments given by the reviewer #2. According to their reply, it seems that they provided to do so successfully. I also totally agree with the reviewer #2 about the English: the language needs to be deeply improved.

From my side I come with very few points mainly related to the figures (the order is the new one after the authors review):

Fig. 1 – Improve the quality, right now it is very difficult to read the words.

Fig. 2 – Add also a small view over Australia with a red point indicating the study area.

Fig. 3 – Indicate the meaning of the two colors (orange and soft green) in the main figure. Improve the quality. Add scale bar.

Fig. 4 – Add color legend and improve the quality. Add scale bar.

Fig. 5/7/10/11/12/15 – Restyle the plots (now they are too small and the font size of letters too wide) and improve the quality.

Fig. 6 – Add color legend. The letters (B2, B3, ...) are too small, however why these are not consistent with those in the Fig. 2? Please check. I also suggest enlarging these a little providing “white halo” rounded color. Add scale bar.

Fig. 14 – If it is possible improve the quality of background terrain. Add scale bar. Just consider 1 color legend.

Fig. 16 – This picture is unclear and maybe not necessary since in the text the process of ground water extraction is well explained. However this is my suggestion: try to improve the quality and the style of the picture providing also descriptions. Add color legend.