

Response to Mark Silburn's review

Thanks Mark for the review. Your comments will help to improve this paper for the next version. All of the reviewers comments are reproduced below and our reply is printed in italics.

General comments

The paper is well written and clearly describes the work (with only a few minor corrections). The results provide a useful first approximation for estimating recharge where measurements are not feasible/affordable. More importantly they provide information about how confident we can be in various situations (including those where we basically don't know recharge!). The influence of the methods of recharge estimation is clear (some methods are measuring different things) and the comparison of methods is useful when considering using such methods. The paper should be published more or less as it is.

This meta-analysis makes it is obvious that many of the factors influencing recharge rates were not described in the source studies. One would hope that future studies could be improved by providing more information about these factors influencing recharge.

Specific comments

- * Page 5665 line 27. An explanation of the logic used to arrive at the "5%" would be helpful.
The manuscript said "about 5%" because the uncertainty is greater than an order of magnitude so it needs to be less than 10%. We will make this clear in the next version of the paper.

Technical Corrections

- * Table 1. I suggest providing an indication of which relationships are statistically significant (at some level) e.g. bold the R² if significant at P=0.05.
All of these relationships are statistically significant at P=0.05, if the relationship was not significant then we did not put a line on the figure or the parameters in the table. We will make this clear in the next version of the paper.
- * Soil names (e.g. Vertosol) (page 5663) are proper names (like towns) and should be capitalised.
We will check this in editing the next version of the paper.
- * The only correction to the text required is on line 13 p5664 – delete "it is" and "that" on the next line (or similar) – the sentence is hard to understand as it is.
This sentence will be edited for the next version of the paper.
- * There are some sections where tense varies and a more competent editor than I should be consulted – they may be "liveable" but some readers might be put off. For example, 1) the first sentence on page 5660 is present tense whereas the section is largely in past tense. 2) section 2.3 in methods is in future tense.
We will check this in editing the next version of the paper.