Hydrology and Earth System Sciences Discussions

Interactive
Comment

Interactive comment on "Uncertainties in land use data" *by* G. Castilla and G. J. Hay

Anonymous Referee #1

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The authors provide a nicely balanced assessment of uncertainties in land use data making good use of current research. I have only a few suggestions to further strengthen this paper.

1. The authors briefly mention errors of commission and omission in relation to confusion matrixes on page 3452. I believe that these terms need discussing in more depth since they provide great insight into how uncertainties are manifested in land use maps (and have implications for any subsequent analysis).

2. The authors do not seem to address the possibility of post-classification smoothing and/or filtering. It is widely accepted that supervised or unsupervised classification of multi-spectral imagery can lead to classified products in which 'salt-and-pepper' effects occur with isolated pixels of one class sitting amidst pixels from other classes. This

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noise can be removed using spatial or frequency filters. Image accuracy assessment after post classification filtering is likely to be higher as a consequence.

3. It would also be possible to extend the paper to consider fuzzy logic, e.g., after the discussion of nominal descriptors to evaluate field v map comparisons on page 3452. Burrough and/or Fisher could usefully be cited in this respect.

4. I note that the authors tend to present uncertainty in a negative way. They mention the term 'distrust' on page 3445 and 3460. I always tend to view uncertainty in a more positive light, and would prefer terms such as 'confidence' and 'certainty'

Throughout the text there are a number of typographical and grammatical errors that could usefully be corrected in the final version of this paper.

Comments on Figures

I think there is scope to improve the four figures in this paper.

5. Figure 1. This is fine, though the class descriptions in the figure caption could more easily be presented as a legend next to the map.

6. Figure 2. It would be useful to have a legend to explain which categories the colour-coded training areas represent.

7. Figures 3a and 3b. I don't think the 'hillshade' representation of uncertainty is terribly effective, particularly when comparing Figure 3a to Figure 3b. If the authors want to keep this there should at least be some comment in the caption explaining that the raised areas (hills) represent areas of highest uncertainty. I would much prefer an alternative representation using a fixed graduated colour scale to compare and contrast uncertainty ranges for the two different representations.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 3, 3439, 2006.

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