

Interactive comment on “The use of remote sensing to quantify wetland loss in the Choke Mountain range, Upper Blue Nile basin, Ethiopia” by E. Teferi et al.

Anonymous Referee #1

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Referee's comment

General Comment: Overall, the paper seems to be an unprecedented work for the study area. Moreover, the authors have clearly stated the scientific relevance of the work for the study area in that they explicitly explained the conservation and/or management of wetlands are issues from local to global scale. As such the use of Remote Sensing data are considered as cost effective approach as compared to the ground truth data and scarce ground observation. Another attractive nature of the paper is their use of different data source for tackling the problem. The findings were properly

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presented with nice explanation in discussions and results section. However, there are some specific elaborations needed for the completeness of the publication as explained below.

Specific Comment Even though each sections of the paper show the flow of the research work, it would be nice if the organization of the paper is addressed in the introduction section. So that, a reader can get a clear image of the paper in advance. If you allow me, I may suggest moving the last paragraph to methodology section and adding the organization of your paper.

P6245:L15 “...the wise management of wetlands is impaired by the general public and decision makers.” The term “wise” management gives kind of vague information. Hence it would be nice if you could specify or either omits the usage of the term. The sense of your statement seems to address conservation rather than management.

P6246:L12 “Landsat, SPOT, AVHRR, IRS, radar systems (Ozesmi and Bauer, 2002), ASTER (Wei et al., 2008; Pantaleoni et al., 2009) and MODIS (Callan and Mark, 2008) are the most frequently used satellite 15 sensors for wetland detection.”- The sensors' acronyms needs to be defined at least once when they appear in the text for the first time. The proper using of the acronyms is one the major weaknesses of the paper. (Example MODIS was explained on P6260 L10 however it is used as an acronym on P6246L12)

P6246:L27 “In this paper post-classification comparison change detection approach which compares...” The idea in this statement is almost a repeated later in the methodology section (Section-3). It would be nice if you could merge this paragraph with section 3.

P6246 to P6254: Sections 3.2.1. through 3.2.5 are too extended explanations. As these can be referred from the available publications cited by the author; it would be nice if the explanation focuses on the methods used for the research under consideration.

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P6255:L1 (Image Classification): In this section it has been mentioned that there were different sources of ground truth data for image classification. It would be nice to explain the methods of keeping temporal homogeneity when one uses those different sources of observation for classification of back dated image (1986/2005). For example the ground truth data collected in the period from June 2009 to March 2010 were used to classify images acquired in 1986/2005. Another issue is the spatial scales of the topographic map of 1:50 000 are not compatible with the resolution of the images used. Hence such scale issues needs to be addressed at least as a limitation under scarce data.

P6259:L4 "Again based on Table 5..." It should be corrected as table 6; otherwise, table 5 has nothing to do with the areal coverage of the land use/land cover classes.

P6274:Figure 2- The figure needs to be redrawn. The arrow on the classified image is misleading or if there is some scientific meaning it has to be explained.

Finally, the paper addresses the major issues and future directions related to wetland conservation of the study area which can give a clear image for policy makers and watershed planners and managers.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 6243, 2010.