Interactive comment on “A hierarchical approach on groundwater-surface water interaction in wetlands along the upper Biebrza River, Poland” by C. Anibas et al.

D. Olago (Referee)

dolago@uonbi.ac.ke

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The paper introduces new information and methods to study groundwater-surface water interactions in wetland systems. It is particularly novel in that (and as the authors themselves point out) in that it examines the exchange processes in an organic matter-dominated matrix for the first time, as opposed to sand/silt matrices which have been studied before using the applied methods. Thus, the scientific questions addressed in the paper introduce some novel ideas and outcomes. The conclusions based on the study results are robust, and the scientific methods and assumptions are generally clearly outline. The paper is extensively well referenced, and both cited information and the authors original contributions come out quite clearly and distinctly. The title of the paper conforms to the content.

The description of experiments and calculations are, for the most part, sufficiently complete and precise to allow their reproduction by fellow scientists, but it should be noted that natural heterogeneities in the earth materials and hydrogeological parameters in different areas may confound the results. Here, it is the logical process followed that I consider more important than reproducibility for the given reasons.

1. Presentation: is well structured and clear. 2. Language is fluent and precise for the most part – corrections are indicated below. 3. Mathematical diction and rigour is applied. 4. Some parts of the paper need clarification, etc., see below. 5. References are appropriate in number and quality.

Other than for the minor comments/corrections below, the manuscript is of sufficient merit for publication.

1. Abstract: A summary statement on the influencing first and second order factors should be included as they are referred to extensively in the discussion and conclusion sections, forming some of the outcomes of the study. 2. The word “however” if used in the middle of a sentence, should be preceded and followed by commas. 3. Pg 9545, lines 25 and 26: Put commas after “was” and before “still” 4. Pg 9546, line 9: symbol should be % not per mil. 5. Pg 9546, line 23: Insert the word “on” after 301 6. Pg 9547 line 5: “on average” not “in average”. This should be corrected in other sections of the text as well. 7. Pg 9547 lines 8 & 9: Text “fig. 4a and b, respectively should be in brackets. 8. Pg 9547 line 15: “Rising” not “Raising”. 9. Pg 9549, line 17/18: insert the word “the” between “to” and “groundwater” 10. Pg 9550, line 26: insert “to” after “equivalent” 11. Pg 9551, line 22: “the” not “he” 12. Pg 9551, line 24: insert “the” before “valley” 13. Pg 9551, line 26: Put a fullstop after “floor” 14. Pg 9551, line 28: “than” not “then” 15. Pg 9553 line 14: insert “in” before “the region” 16. Pg 9554, line 20: change
Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 9537, 2011.