

Interactive comment on “Soil moisture and evapotranspiration of wetlands vegetation habitats retrieved from satellite images” by K. Dabrowska-Zielinska et al.

Anonymous Referee #1

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This paper reports an attempt to map the wetland habitat conditions such as vegetation types and soil moisture using various satellite images and ground-based measurements. It is obvious that remotely sensed information plays important roles in assessment, monitoring and management of ecosystems. The study site is one of the important wetland areas in the EU region. Therefore, overall, the subject and approaches sounds interesting and reasonable. This study would be a good demonstration to show the potential of combined use of optical, thermal, and radar images. Results themselves may also be worthwhile for operational management purposes.

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However, there are several flaws in this paper. First, the descriptions, especially in methodologies, are too simple for readers to understand what has been done actually. Second, calibration and validation procedures are not presented adequately, so that it is difficult to evaluate if many mapping results are reasonable or not. Third, the structure of the paper is not well organized, so that readers may be confused.

Thus, in conclusion, this paper may be published after some major revisions.

Important points;

1. Abstract and Introduction: The objective of this paper should be described explicitly.
2. Abstract: the last two lines should be moved to the method or acknowledgment section?
3. Introduction: Only a few references are cited in the former part of the present introduction. Some more references should be provided to the descriptions on the status of the wetland ecosystems as well as the preceding works and/or issues.
4. Introduction: The second paragraph (P3L26-) may be moved to the last part of this section and explained with the objective of this study.
5. S1.1: More information should be provided on the test site; some important species, temperature and soil conditions, etc.
6. S1.2: In general, the reliability of ground measurements is often critical, especially in natural ecosystems with large spatial variability. Hence, more detailed information on data acquisition methods/procedures should be provided. Please indicate the number of data points, accuracy, spatial heterogeneity, and representativeness of sampling.
7. S1.3: Many types of satellite images are used, but the specifications and data are not provided clearly; some of them are given later with some results. Such information should be provided in earliest opportunity in the Materials and Methods section maybe in a Table.

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8. S2: Methods/analytical procedures and results are mixed and inadequate. Calibration/validation procedures and accuracy on results are not clearly presented. Hence, it is difficult to evaluate the reliability of the mapping results. The methods and analytical procedures should be explained in more detail in separate sub-sections. Furthermore, explanations and discussion on results for Figures 2-8 are too short and inadequate.

9. S3: Many results are presented in Figures 9-14, but more information should be provided in methods/analytical procedures to assure the results. As in S.2, calibration/validation procedures and accuracy on results are not clearly presented. Hence, it is difficult to evaluate the reliability of the mapping results. The methods and analytical procedures should be explained in more detail in separate sub-sections. Furthermore, explanations and discussion on results for Figures 9-14 are inadequate. More rationale and discussion for the results should be provided.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 5929, 2010.