

## ***Interactive comment on “Monitoring of riparian vegetation response to flood disturbances using terrestrial photography” by K. Džubáková et al.***

### **Anonymous Referee #2**

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This is a really interesting paper that follows the recent literature about low-cost remote sensing for earth surface analysis, which represents one of the future challenges in the Earth science. The paper presents a technique based on high-resolution ground-based camera for monitoring riparian vegetation in an Alpine gravel bed braided river. The purpose was quantifying the immediate response of riparian vegetation to flood disturbance by standard vegetation indices. The novelty of this work, in addition to the use of low cost cameras and different vegetation indexes (that provides an alternative, useful and accurate method if compared with well known satellite remote sensing techniques), is the fact that similar applications have been previous carried out in agricultural landscapes with single or few vegetation species. The results here offer new insights into the complexity of riparian vegetation dynamics within a floodplain. The

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paper requires in my opinion just few minor revisions before publication. These are necessary to enlarge the discussion and help the readers to better understand any critical issues or details related to the presented methodology.

#### Comments:

1) The camera installation consists in two digital cameras (Canon EOS 350D, 24mm lens and 8 Mpx CCD sensors) positioned 530 m above the floodplain. The horizontal distance to the study area is between 860 and 1460 m. Here the discussion should be enlarged according to the following points: i) How does the CCD sensor resolution matter for such kind of analysis? ii) What about the cameras angle? iii) How many positions were considered? How many pictures were collected? iv) Why 530 m above the floodplain? And why also such kind of horizontal distances? Is there a reason related to camera settings, or it is just because of environment?

2) All camera settings (focus, aperture, etc.) were set manually to the best average lightning conditions in the valley. This is a real critical point since the suitability of the results should be strongly linked with the subjectivity of manual-setting of each camera. A discussion here is strongly required. The authors said that “more details of the installation can be found in Molnar et al. (2014)”, however I see that such paper is under review.

Both points (1) and (2) require a new sub-section, where also literature should be provided.

3) The authors did not provide a comparison of the present methodology with other techniques. Why? Are there available any high-resolution satellite images for the study area and analyzed flood events?

#### Technical comments:

- I suggest to provide a picture collected during the technical operations in the field.
- Any local scale pictures about the evidence in vegetation changes are provided. It is

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very difficult to feel about the vegetation types and their changes. Few pictures should help to better understand.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 3359, 2014.

**HESSD**

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