

Interactive comment on “The dynamics of cultivation and floods in arable lands of central Argentina” by E. F. Viglizzo et al.

E. F. Viglizzo et al.

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Comment of REF 1:

It is not clear to me if the estimation procedure adopted to define the extend of flooded area is appropriate or not. The calculation is based on the change observed on agricultural land use (see page 2326) and consequently these two variables (landuse and ground water level) are correlated. According to the authors, the procedure was validated against satellite images that may provide a fair description of the flooding area affected by clouds, trees and floating vegetation (see Smith, 1997). This point is a central one and the validation procedure used should be described in greater details and supported by graphs and data.

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Reply from Carreño, L.:

Smith (1997) provided a brief review about the use of active and passive remote sensing to estimate water surface area and elaborate flooding maps. One of the three used general approaches that Smith (1997) reported looks at finding correlation of satellite-derived water surface areas with ground measurements. Close to this approach, in our work we correlated water surface estimations from satellite images (free from clouds and floating vegetation) with ground records of cultivated areas affected by floods.

References

Smith, L.C: Satellite remote sensing of river inundation area, stage, and discharge: a review, *Hydrological Processes*, vol. 11, 1427-1439, 1997.

Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, 5, 2319, 2008.

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