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Discussions

Interactive comment on "Mediterranean irrigation under climate change: more efficient irrigation needed to compensate increases in irrigation water requirements" *by* M. Fader et al.

Anonymous Referee #1

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*General comments

This paper projects water demands of Mediterranean irrigation under different scenarios of climate change, irrigation improvement, carbon fertilization, demographic change and water scarcity. The novel points of this paper are found in the trial to i)include agricultural trees widely grown in the Mediterranean region in the modelling, ii) address irrigation efficiency, iii) address carbon fertilization effect and iv) compare different scenarios to come up with simple suggestions for better adaptation. Description and accuracy of the modeling is minimally presented in this paper. Readers are advised to refer to the author's previous work (Fader et al., 2015) for these two points. Overall presen-

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tation is well structured and clear. Relation between precipitation and different degrees of warming in the climate change scenario needs to be described. The analysis on water scarcity seems relatively weak, since future water availability is not considered.

*Specific comments

p.8474, section 3.2: No information is provided on the amount of precipitation in the climate change scenario. It is important to show to what extent increased evaporative demand and decrease in precipitation (green water) contribute to increase in the NIR under climate change.

*Technical corrections

p. 8465, l. 11: what » which

p. 8474, l. 11: collect » collected

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 8459, 2015.