Hydrology and Earth System Sciences

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Discussions

Interactive Comment

Interactive comment on "Application of MODIS snow cover products: wildfire impacts on snow and melt in the Sierra Nevada" *by* P. D. Micheletty et al.

Anonymous Referee #3

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The authors use a time series (2002-2012) of the MODIS Snow Covered Area (SCA) and MODSCAG data products to investigate the impact of wildfire on snow cover. In my opinion their most important conclusion is that the number of snow cover days reduces after a wildfire. The paper is well written and the authors make comprehensive statistical analyses (e.g. ANOVA and CDF) on two snow cover products, whereby one is corrected for effects of vegetation and the other is not. Therefore, I recommend accepting the manuscript for publication after consideration of the comments below.

General comment:

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Interactive Discussion

Discussion Paper

A general comment is that although authors do quantify the impact of wildfire on the snowpack, they make fairly little effort to quantify the impact of this change on the hydrometeorology (e.g. runoff, heat fluxes). In my opinion, the quality of the manuscript would improve considerably if some model results could be shown that would demonstrate this.

Specific comments:

P7514L14: What is the definition soil burn severity? How can we compute this?

P7524L25- P7524L24: It is not clear to me which result (table or figure) this passage refers to.

P7525L5- P7525L9: For me it is also not clear, what figure 2 is actually showing. Is it showing the difference SCA post and pre-fire for the methods? Is this computed for the entire pre- (2002-2007) and post (2008-2012) fire episodes?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 7513, 2014.