

Interactive comment on “Albedo-induced radiative forcing from mountain pine beetle outbreaks in forests, south-central Rocky Mountains: magnitude, persistence, and relation to outbreak severity” by M. Vanderhoof et al.

Anonymous Referee #1

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First, this study is not related to biogeochemical cycling or extreme climates. But it has something to do with disturbances that may be related to climate and droughts. It is upto the Editor to decide the relevance. `<?xml:namespace prefix = o ns = "urn:schemas-microsoft-com:office:office" />`

The researcher took advantages of historic field plot survey and remote sensing data to establish Pine Beetle out breaks and land surface characteristic changes. Such an study is timely since very few studies are available to evaluate the implications of disturbances of insects and diseases to regional energy and water balances and

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general climate.

The analysis is reasonable given the uncertainty both MODIS and Lansat albedo data. The models to explain the mechanism albedo change and recovery are sound. The paper is generally well written. However, clarifications are still needed to make the paper more readable to a wider audience.

1. Explain more about how Albedo and impacts on climate forcing are calculated. For example, I am not sure most reader knows what kernel is.
2. The authors need some literature to backup the estimates. Are there eddy flux sites or micro meteorological data in the region that report energy fluxes or albedo. If not, simulated studies for forests can be cited
3. The authors made a few statements on the implication of increased albedo found from this study on regional evapotranspiration and precip. The speculation is rather far fetched in my opinion. I would argue that the author should speculate more on the local impacts on soil water balances, snow redistribution, canopy interception, streamflow, soil moisture... These will be immediate impacts and there may have data to cite. I suggest the author check with Dr. John Stednick at Colorado State University for references.

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