

Interactive comment on “Impacts of an Intense Wildfire Smoke Episode on Surface Radiation, Energy and Carbon Fluxes in Southwestern British Columbia, Canada” by Ian G. McKendry et al.

Anonymous Referee #3

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General Comments:

In this study the authors describe the effect of a short-duration wildfire smoke episode on radiation and energy budgets as well as carbon fluxes at differing land surface sites in southwest British Columbia. They they compare their results with those from other geographic settings. The work adds to the literature on the effects of wildfire smoke, by adding a case study in this region. The paper is well written and clearly presented.

My only major suggestion would be that the authors provide some additional context for the smoke-induced changes, by for example comparing them with changes resulting from a cloudy vs a clear day so that a reader could get a sense of the significance of the

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smoke-induced changes in relation to “normal” weather-induced changes in radiation, energy and carbon balances.

Minor Comments:

1. P2L26: “. . . was nearly equal to the attenuation at the surface. . .” – do you mean nearly equal to the absorption by the surface? 2. P5L26: define SDA 3. P8L31: are PM concentrations referred to here PM10 or PM2.5?; also earlier in the data sources section you should state what instruments are used to measure PM2.5 and PM10 and account for the PM2.5 readings being higher than the PM10 readings on the afternoon of 5 July (as of course PM2.5 is a subset of PM10 so should be \leq to it. . .) 4. P7L13-19: times are given, but clarify in the text that the date is July 5 5. P9L3-4: promises further discussion of the role of smoke on temperature below, but I could not find much further discussion of this. . .

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-252>, 2018.

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