

Interactive comment on “Soil respiration in a fire scar chronosequence of Canadian boreal jack pine forest” by D. R. Smith et al.

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To whom it may concern,

We would like to thank the referees for their extremely useful feedback on our publication in Biogeosciences Discussions entitled ‘Soil respiration in a fire scar chronosequence of Canadian boreal jack pine forest (MS No.: bg-2009-200)’. We seriously considered all these comments and as a result the manuscript has undergone some changes, which will become apparent when our paper is reviewed. Specifically, we would like to point out the following:

1. We have decided to adjust soil respiration for soil temperature using Q10 of 2. Our initial derivation of Q10 is probably not strong enough to validate its use in our

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adjustments e.g. mainly from burned scars and including measurements from different scar categories – which will probably have different Q10 values. Nevertheless, because of the well documented effect of soil temperature on soil respiration, we felt some adjustment was necessary, so we opted for the commonly assumed generic Q10 = 2 value.

2. As a result, our soil organic C analysis is now omitted. This was only used in our initial derivation of Q10. In any case the sample sizes are probably too small to justify their inclusion and was not included in our original discussion to explain soil respiration patterns across the chronosequence.

3. We now focus on one field campaign 2007 (formally called field campaign 2) where soil collars were used. As a result, field campaign 1 and the pilot study are omitted where soil collars were not used.

We hope we have addressed all of the referee’s comments and that this new version satisfactorily covers the requirements for publication in Biogeosciences.

Yours faithfully,

Daniel R. Smith.

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