

Interactive comment on “Analyzing the major drivers of NEE in an alpine Mediterranean shrubland” by B. R. Reverter et al.

B. R. Reverter et al.

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Received and published: 25 March 2010

Reply to major comments:

(This paragraph is common to our replies to Referees 1 and 2) The additional carbon loss, previously masked due to sensor heating, was calculated correctly according to the Burba formulations. We checked this multiple times prior to submitting the manuscript, including using Li-Cor’s own spreadsheet calculations (kindly provided to us by George Burba), which produced results that match ours for both years. The magnitude of the correction is highly affected by air density. The reason we do not find negligible effects is because of our 2300m elevation, reducing air density and therefore heat capacity and increasing the effects on air temperature (and density) imposed by the instrument.

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We agree with the referee that the correction for the evapotranspiration flux is somewhat large. This can be explained partly by the reduced air density at the site (see above), and partly because of uncertainties introduced in the gap-filling process (around 60 days of water vapour fluxes were missing) that propagate significantly into the annual estimates. As a follow-up to this manuscript, in which we have applied the methods outlined by Burba et al. 2008 (Global Change Biology), we are working on additional analyses which will enable mitigation of these types of errors.

Reply to minor comments:

We will clarify these two sentences.

Interactive comment on Biogeosciences Discuss., 7, 671, 2010.