

Interactive comment on “The CarboCount CH sites: characterization of a dense greenhouse gas observation network” by B. Oney et al.

Anonymous Referee #1

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The paper presents the ability and the limitation to capture the carbon flux on a regional scale by an observation network combined with a particle dispersion model. The four sites of the network were characterized and compared with respect to the local meteorology, the surrounding land use and topography, and the sensitivity to surface fluxes derived from modelling. From the observed similarities and differences at the individual sites the authors identified the occurrence of strong local influences and complex terrain as main challenges to be taken into account for the application of atmospheric transport and terrestrial carbon flux models, as well as for the selection of site location and tower height of the measurement station.

The study is well elaborated, and the text clearly structured and written. Besides a few minor revisions which I would like to suggest is the paper highly recommended for
C3049

publication in ACP.

Minor comments Page 12919, line 12: ‘... height a.m.g. (“model”) ...’ interspace Page 12920, line 16-17: ‘... topo – graphy...’ line break Page 12921, line 4: ‘... needle-leaf forest...’ hyphenated Page 12928, line 19: ‘... at the mountain top sites likely due to ...’ syntax Page 12930, line 13: ‘... as intense as at the Gimmiz site ...’ word missing Page 12930, line 18-19: ‘... and December.’ I am surprised because of the month. Are the cattle still grazing there in winter time? Page 12930, line 23: ‘Furthermore, the daytime values ...’ The higher daytime values become not evident in Fig.9

Within the complete text, in Table 1 and 2, and in the text beneath the figures: ‘Beromünster, Frübüel and Lägern-Hochwacht’ the mutated vowels are displaced to the left

The figures 2, 3, 10, 12 and (in particular) 4 are quite small. If possible please enlarge them.

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 12911, 2015.