

## ***Interactive comment on “Micro-topographic variation in soil respiration and its controlling factors vary with plant phenophases in a desert-shrub ecosystem” by B. Wang et al.***

**B. Wang et al.**

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Response to referee's comments

We thank referee and greatly appreciate the thoughtful and constructive comments and helpful suggestions. We have fully considered the referee's comments in the revision and improved the manuscript accordingly.

General comments: The manuscript of Wang et al., titled “Micro-topographic variation in soil respiration and its controlling factors vary with plant phenophases in desert-shrub ecosystems”: is an interesting observational study that investigated the spatial variability of Rs in desert ecosystem in relation to plants. While the sampling is limited,  
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due to logistical constraints, the observations are still valuable. I agree with the other referee that the missing Phase I data should be excluded, it does not add much to your results and discussion, where you discuss only Phase II and III of the study. I would also suggest in the future to use portable IRGA system to sample and measure soil respiration in replicate dunes or increasing the sample points at this dune. The LI-8100 system is good for high frequency temporal data, but in this study you do not utilize that capacity you focus on spatial variability and relating fluxes to explanatory variables (ex. LAI, root biomass) that were measured on biweekly or longer timescales. So you could've sampled Rs also on biweekly timescale using manual portable system to increase spatial area of study. It would've been nice to have a larger sample size in this study, not to take away from this one. The current study is still informative - a synthesis of multiple variables measured concurrently at the site, as the authors explore the causes of spacial variability in Rs.

Answer: We agree with the above-described comments. We excluded Phase I data in our study (see P 9485 in the revised manuscript). The suggestions of how to increase sampling will be definitely considered in our future field measurements.

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/12/C4843/2015/bgd-12-C4843-2015-supplement.pdf>

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