

# ***Interactive comment on “Impact of elevated precipitation, nitrogen deposition and warming on soil respiration in a temperate desert” by Ping Yue et al.***

## **Anonymous Referee #2**

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This manuscript studied the effects of elevated precipitation, N deposition and warming on soil respiration in a temperate desert. This study was well designed, the manuscript was also well written and the results are interesting, which have important implications on the climate change feedback of soil respiration in the temperate desert. I recommend this manuscript to be accepted with minor revision. The major comments are as follows.

1. Line 134, what is the principle for the increased temperature caused by OTC? How much temperature can be increased by this OTC?
2. Lines 141-144, did the Rs measured in this study also include the above-ground

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respiration of the plants? It seems that there were no measures to exclude the above-ground respiration.

3. Lines 166-167, how to calculate the interactive effects of precipitation, N deposition and warming on Rs?

4. Line 195, it seems soil moisture was mainly affected by the elevated precipitation other than the interaction of precipitation, N deposition and warming.

5. Fig.1 a and b, what were the seasonal variations for soil T and moisture?

6. Fig. 4f, why the data number in Fig.4f is less than other figures in Fig. 4?

Lines 232-239, did the thresholds be calculated using statistical method?

Some minor comments: 7. Line 138, please use “the same as”.

8. Page 6, please give the exact year when the experiments were conducted.

9. Lines 158-159, references for the MBC and MBN measurement should be given.

10. Line 160, can soil pH be measured using potassium dichromate method? It must be a mistake.

11. Line 161, can't find the reference of Yue et al. (2016) in the reference list.

12. Fig.1 c and d, these figures should be enlarged. It's hard to see.

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