

## ***Interactive comment on “Characteristics of soil profile CO<sub>2</sub> concentrations in karst areas and its significance for global carbon cycles and climate change” by Qiao Chen***

### **Anonymous Referee #2**

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I have carefully read the paper titled “Characteristics of soil profile CO<sub>2</sub> concentrations in karst areas and its significance for global carbon cycles and climate change” by Qiao Chen. The author measured soil profile CO<sub>2</sub> concentrations, and compared their characteristics in areas with carbonate bedrocks and non-carbonate bedrocks. The observed phenomenon that soil CO<sub>2</sub> was consumed by carbonate corrosion during karstification in this paper is very interesting and scientific. The evaluation of the decreased CO<sub>2</sub> concentration by carbonate corrosion seems to be logical and reasonable. All these ideas presented provide significance information for the global carbon cycle and is interesting enough although there are still the following specific comments:

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1. Page 2 Line 51, "no detail documents detailing. . . . .", "detail" is repeated here; Page 2 Line 81-82, "among which only Ordovician and Permian Strata appear together", the sentence is not clear, what does this sentence means?; Page 4 Line 129, what does "significantly congressed at 0.005 level, it should be " significant correlation at 0.005 level" or not?; Page 6 Line 169-170, " Results are given. . . . .areas", the sentence is not clear, rewrote the sentences. Page 6 Line 177, "which means" is repeated here;

2. I would like to suggest the author show the suitable map for Figure. 1. Maybe the exact location can be shown by the general location and then in 2 or 3 step so as to be acquainted by other researchers.

3. The unit for the ordinate in Figure.6 should be provided.

Overall, the paper is well written and in good shape. It is suitable to be published after the minor revision.

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