

# ***Interactive comment on “Using Moran’s I and GIS to study spatial pattern of forest litter carbon density in typical subtropical region, China” by W. J. Fu et al.***

**W. J. Fu et al.**

fuweijun@zafu.edu.cn

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To reviewer 1,

We are grateful to your helpful comments and suggestions.

All the comments and suggestions have been carefully considered, and necessary changes have been made, with details listed as follows. (Starting with words “Our response”)

Reviewer #1: This paper deals with spatial variation in forest litter carbon in Zhejiang Province, China using 839 samples each one representing an area of 12x6km or 7200

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ha. It is an interesting study and gives an overview of the carbon storage in forest litter in the Zhejiang Province. This is a novel approach to obtain an approximate estimate of carbon storage in forest litter in large areas. This approach could be extended to other areas and may help to give more accurate estimates of terrestrial carbon sequestration. There is still the question of the variation within each 7200 ha grid, which is a relatively large area. This could be discussed further in the paper and may be the basis for a future research projects. The practical value of these results and the potential for future research could be discussed in more detail in the paper.

Our response: We thank the reviewer 1's positive comments to our manuscript. For the 7200 ha grid, we added necessary information in the manuscript. Considering the total area of Zhejiang Province was about 101,800 km<sup>2</sup>, the 12 × 6 km applied in this study could provide enough information of spatial patterns of forest litter carbon density. But further study is also necessary to reveal local spatial variation of forest litter carbon density.

Detailed comments for English improving were made in the manuscript. 1. Our response: Currently, the title was revised as: "Using Moran's I and GIS to study spatial pattern of forest litter carbon density in subtropical region of southeastern China" followed the reviewer 1's suggestion.

2. Make the unit be consistent. Our response: The unit of forest litter carbon density was kg ha<sup>-1</sup> to keep it consistent in the manuscript.

3. Delete the words "in distribution map" in Line 17. Our response: we deleted them.

4. For introduction section Our response: we made some minor changes, such as add word "the", a) and b) at the end of introduction et al.,

5. What is meant by other types? In Line 22 on page 19248. Our response: we added words "such as economic forest) in the manuscript.

6. You state that three sub-samples were collected from a 1m×1m plot in each

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12kmx6km grid. The 1mx1m plot was selected at random from the fixed forest plots; what does this mean? What does at random mean? Were the plots near the centre of the grid? Our response: In china, the forest investigation was based on the fixed forest plots, which were decided using grid sampling strategy. In this study, the fixed forest plots were chosen using the 12 kmx6km. And in each plot, three random samples of forest litter were collected to make composite sample.

7. Add the reference of “Box-Cox” reference. Our response: we added the reference in the manuscript.

8. For the digits after the decimal points Our response: We keep one digit after decimal points throughout the text.

9. It would be helpful if a table was included showing the min, mean and max of these 9 paramaters, incluing measuement units used. It may be possible to include this information in Table 2. Our response: We added necessary information in Table 2, such as min, mean and max.

10. For other English word improving, we followed all of the review 1’s comments.

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Interactive comment on Biogeosciences Discuss., 10, 19245, 2013.

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