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## ***Interactive comment on “Global fungal spore emissions, review and synthesis of literature data” by T. N. Dallafior and A. Sesartic***

**Anonymous Referee #2**

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### General comments

The manuscript “Global fungal emissions, review and synthesis of literature data” by the authors T. N. Dallafior and A. Sesartic summarize the available information about fungal spore emissions, and estimate global fluxes of spores from different biome. The authors remark the importance of fungal spore in aerosols and the potential information that may be obtained and used in climatological and weather studies. The authors also discusses about the state of art of methodologies used in determining the spore emission and their limitations. Finally, this review evidence the few information available on fungal spores distribution and emissions.

This manuscript represent a complete and interesting review of the current knowledge about fungal spores, however the original contribution of the authors related to the

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fluxes of fungal spore from terrestrial biome need to be improved and the discussion should include an analysis on the physical and ecological implications of the fluxes estimated. Therefore, I consider that the manuscript need to be improved before can be considered for publication.

#### Specific comments

##### Methodology

Data coverage and fluxes estimation: Although the simple approach utilized to quantify fluxes of spores in defined biome is interesting from ecological and physical point of view, I considered that the data available is not enough to estimate global fluxes of spores. I suggest redefine biome according to the areas where spore emission have been measured and to estimate local fluxes.

Biome definition: According to the distribution of the available measurement of fungal emission (Fig. 1), I suggest to the authors to redefine specific biome (e.g. tropical forest from Central America, temperate forest from Europe) and consider the area covered by these ecological units in the fluxes estimations.

Fluxes estimation: To define variables in equation 1. To calculate temporal changes in fluxes of spores, where data are available, to know whether there is variability at different temporal scales.

##### Discussion

I consider that discussion is lacking in explaining which are the implications of the fluxes estimated. I suggest to incorporate a discussion on the consequences of these fluxes for different fields of research as: climatic variability (e.g. ice nucleating activity), global or local transport of aerosols, global or local transport of fungal biomass, dispersion and colonization by fungi, etc.

#### Technical comments

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I suggest to include a new section with results and discussion of flux model of fungal spore and their implications.

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Interactive comment on Biogeosciences Discuss., 7, 8445, 2010.

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