

Interactive comment on “Bacteria in the global atmosphere – Part 1: Review and synthesis of literature data for different ecosystems” by S. M. Burrows et al.

Anonymous Referee #2

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This manuscript is an excellent review of the literature on the spatial and temporal flux of bacterial concentrations in the environment. Short-range dispersal strategies such as entrainment of bacterial into the air from soil, water and plant surfaces as well as point sources are discussed. In addition to the influence of localized point sources on the bacterial concentration of a given aerosol there is the potential for more global influences on the amount of bacteria the atmosphere. The work by Griffin, Kellogg and others on the role of desert dust in atmospheric microbiology is referenced but needs to be discussed in greater detail in the context of long-term temporal shifts due to anthropogenic activities. Giant dust storms from northwestern Africa and central Asia due to increasing desertification have been shown to carry bacteria across oceans to

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other continents. Satellite imagery for the study of long-range bacterial dispersal also needs to be discussed in greater detail. Other than these omissions this is a useful review of what is currently known, and even more importantly, what is not known about bacterial concentrations in air.

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