



Abundance, diversity and transformation of primary biogenic aerosol particles and water-soluble organic compounds

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Biogenic aerosols are ubiquitous in the Earth's atmosphere and they influence atmospheric chemistry and physics, the biosphere, climate, and public health. They play an important role in the spread of biological organisms and reproductive materials, and they can cause or enhance human, animal, and plant diseases. Moreover, they influence the Earth's energy budget by scattering and absorbing radiation, and they can initiate the formation of clouds and precipitation as cloud condensation and ice nuclei.

The composition, abundance, and origin of biogenic aerosol particles and components are, however, still not well understood and poorly quantified. Prominent examples of primary biogenic aerosol particles, which are directly emitted from the biosphere to the atmosphere, are pollen, bacteria, fungal spores, viruses, and fragments of animals and plants. Major classes of related water-soluble organic compounds are carbohydrates, amino acids, proteins, and lipids.

Recent results of field measurements and laboratory studies of bacteria, fungal spores, carbohydrates and proteins with biological, chemical and physical techniques will be presented and discussed.

References

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