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Surface–Atmosphere Exchange—Micro-Scales to Climate Scales

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Deadline for manuscript submissions:
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Message from the Guest Editors

Increasingly, it has been realized that the biosphere is a critical component in the Earth's climate system through processes of bio-deposition and emission interactions involving climatically important biogenic gases and particles in response to evapotranspiration changes. Thus, biospheric processes are now a common feature of regional and climate models required to accurately predict both past and future ecosystem response to climate change. This has motivated researchers to develop measurement and computer modeling techniques to improve our understanding of biosphere atmospheric exchange and its role in local as well as global chemical cycling. The study of surface–atmosphere exchange and biometeorology requires a significant multidisciplinary approach using new technological developments in real-time aerosol composition and biological aerosol detection and quantification using optoelectronic techniques coupled with neural network–AI algorithms, to better understand biogeochemistry, ecology, co-emissions of anthropogenic and natural biogenic environmental pollution, and biogenic agricultural emission patterns.

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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