

## Soil Variability and Biogeochemical Fluxes

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Soils are by nature heterogeneous. Quantitative understanding of the dynamic effects of soil formation processes on the description and prediction of flow and transport phenomena of water and element of soil ecosystems is, however, relatively limited. Patterns reflecting the heterogeneity of soil variables, parameters, and fluxes may be organized in deterministic and stochastic structures in both space and time. Currently, spatiotemporal soil data are becoming increasingly available at different spatial scales and under varying environmental conditions and soil management systems. The richness of this information could provide a deeper knowledge of soil properties that are key to understand the interplay between flow and transport processes across scales, thus allowing further improvements in the modeling across soil landscapes and in satellite or ground-based sensor data retrievals. This special issue focuses on the dynamics of soil properties as an interpretative key for understanding feedbacks between soil changes and fluxes. Contributions on the following—but not limited to—topics are welcome: measuring and observing patterns in soil systems, characterizing temporal and spatial variability using temporal stability analysis, scaling, space–time geostatistics, and modeling techniques to analyze the impact of spatiotemporal variability in soil states (e.g., soil moisture) and fluxes.

Deadline for submission of papers: 15 Dec. 2016