Special Issue

Soil Microbes as Regulators of Grassland C and N Cycling Under Climate Change

Message from the Guest Editors

Grasslands, critical for carbon sequestration and nutrient provisioning, face unprecedented pressure from climate change. Soil microorganisms drive biogeochemical cycles sustaining these ecosystems, yet their regulatory mechanisms remain incompletely understood. Historically, research focused on abiotic factors or plant dynamics; only recently has the integrative role of microbial communities in grassland resilience gained prominence.

This Special Issue aims to synthesize mechanistic insights into how soil microbes mediate carbon and nitrogen fluxes in grasslands under climate change stressors. We seek interdisciplinary studies linking microbial traits, community dynamics, and process rates to predict ecosystem functioning. The scope spans microbial physiology, community ecology, biogeochemistry, and modeling.

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