

## CSSS\_13: General Soil Sciences

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### Session Description

This session will highlight the diversity of research investigating the pedagogical and edaphological processes in the soil ecosystem that consider the historical, current-day and future conditions affecting soil formation and functions. In the area of soil pedology, presentations are solicited that demonstrate progress towards improved understanding of soil characteristics across landscapes due to bioclimatic regimes or combinations of pedogenic processes. Soil edaphic conditions controlling the biological, chemical and physical properties of soil in natural, managed and reconstructed ecosystems will be explained with controlled and field experiments, numerical modeling or other approaches, from the perspective of explaining and manipulating soil functions.

In soil pedology, sample topics include: soil pedogenesis, morphology, classification and mapping; measurements and models to describe the uncertainty in soil formation within complex and heterogeneous landscapes; scaling; site factors such as vegetation, sedimentation, geomorphology; climate effects.

In soil edaphology, topics include but are not limited to: soil fertility and fertilizers; phosphorus management; soil organic and inorganic amendments, mulches; crop residues and cover crops; organic agriculture; soil microbial diversity; soil microbial functions; environmental microbiology; soil fauna; soil health; soil physics; soil structure and aggregation; soil water relations; exchange processes involving sediments, nutrients, trace elements, water and gases within the soil matrix and with external ecosystem components, including groundwater, surface water and the atmosphere. Research dealing with the effects of heat, drought, freezing, thawing and other climatic variables on soil functions will be of interest. Measurement techniques, including those that support models of soil ecosystem services and long-term changes related to environmental soil sustainability, are welcomed.

**Primary Affiliation:** Canadian Society of Soil Science

**Joint Session Submission:** none