Beyond the 2D Soil-Landscape Snapshot: Making the Invisible Visible. (S05-grunwald094559-Oral)

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Abstract:

Emerging geographic information technologies (GIT) are changing the way we collect, analyze, and visualize soil-landscape data. We used geostatistics to integrate soil, topographic, and land cover data and to reconstruct continuous soil-landscape models for numerous sites in Florida. Models show the spatial three-dimensional distribution of soil-landscape properties. Animations were developed to show changes of observed soil-landscape properties over time. The visualization component was implemented in Virtual Reality Modeling Language (VRML) enhanced with JavaScript and the new Open Source 3D web-graphics language eXtensible 3D (X3D). A digital library of soil-landscape models was developed. Soil and water quality problems, and land resource management can be addressed in innovative ways using GIT which goes beyond two-dimensional crisp soil maps providing snapshots of soil-landscapes.

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