Regional Estimation of Carbon Immobilization in Surface Soils. (S08-kinsall092604-Poster)

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Abstract:

Subsurface soils (those soils below the A horizon) represent a potential storage sink for carbon. Various physical and chemical properties are thought to control carbon immobilization, many of which are well known and readily measured. By coupling our knowledge of carbon sequestration mechanisms with readily available soil properties, we hypothesize that we could reliably predict where significant carbon sequestration could likely occur. By coupling this knowledge with national soil maps, we can provide a regional estimate of the storage capacity of this sink. The objective of this research is to estimate the carbon storage capacity of subsurface soils within the U.S. This research will combine laboratory studies, regional assessment, and carbon cycle modeling. The basic approach is to use available characterization data to estimate the carbon storage capacity of subsurface soils. Estimation will be based on statistical models that are constructed from laboratory data, using selected physical and chemical soil properties as predictors of carbon storage capacity. These statistical models will be linked to a geographical database of soil map units and characterization data to generate regional estimates of soil carbon storage.

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