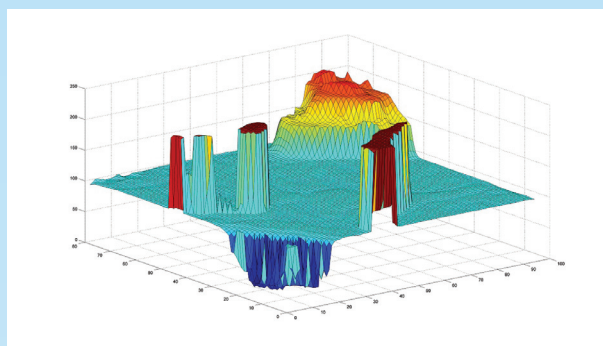
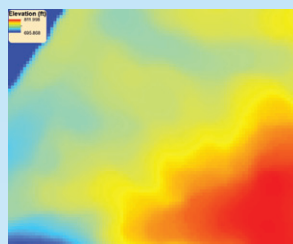


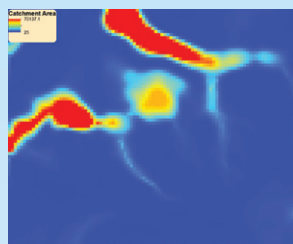
Continuous paleosol depth map



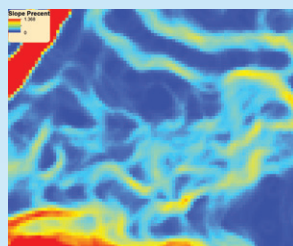
3D visualization of depth to paleosol layer in cm



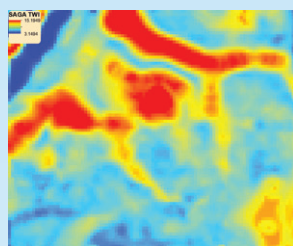
Elevation above sea level (m)  
from DEM



Catchment area



Percent slope



Topographic Wetness Index

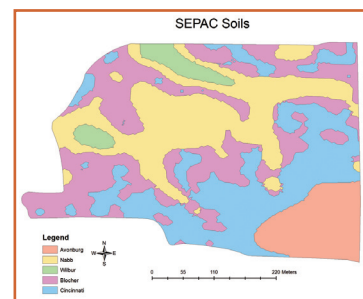
## Understanding the Dynamics of Soil Diversity and Variability in the Field

Jenette Goodman, Purdue University  
Dr. Phillip Owens, Purdue University

Understanding the dynamics of soil diversity and variability in the field will be critical to implementing sound sampling strategies and informing best and crop management decisions. In an effort to provide meaningful, relevant soils information at field to regional scales, Digital Soil Mapping (DSM) techniques are being utilized to generate continuous soil property and class estimates. A traditional soil survey delineated soils through stereo pairs of aerial photography based on topographic changes in the landscape. These delineated soil units were grouped as a series based on their physical, morphological (physical and structural) differences visible in the field, not their functionality in terms of crop production or other ecosystem functions. Our goal is to delineate and classify soils based on the functional similarities rather than morphological differences. This is done under the assumption that water movement and redistribution across the landscape is the driving factor in soil functional differentiation and that topography controls water movement. Various terrain attributes, derived from Digital Elevation Models (DEMs), are used as the source of numerical information representing the topography of the landscape. Combining soil information from SSURGO, a U.S. Department of Agriculture soil survey database, with topographic attributes allows for spatial maps that are versatile for application directly in models or delivered as class maps for soil crop management zones.



The SEPAC site



Soil series classification predicted for  
SEPAC

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