

A Biophysical Landscape Model for Transferring Research Innovation. (A03-molling667229-oral)

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Abstract:

An agricultural model that wraps up many interrelated processes into a single package can be an ideal method of delivering the latest scientific research to practitioners. There are several advantages to this approach. Sub-models are pre-tested for compatibility and are known to work well together. Data input and output are streamlined so that output from one sub-model flows directly as input to the others. Cascading cause and effect occurs automatically. And the many processes included allow the practitioner to use the package for a variety of short term and long term decision support issues. We present one such model that takes this approach. The Precision Agricultural-Landscape Modeling System (PALMS) combines physically-based, research-quality soil, crop, and runoff modules into a single precision-scale landscape model. PALMS can be used to time management events (tillage, planting, harvest), estimate environmental impact (runoff, leaching), and assess profitability (yield, grain/silage moisture). The addition of a point-and-click graphical user interface improves accessibility to the model.

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