



Integrating Phosphorus Movement with Soil and Water Loss in the Daily Erosion Project

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The Daily Erosion Project (DEP) is an ongoing modelling effort which is now in its second generation. DEP provides comprehensive and dynamic estimates of sediment delivery, soil erosion, and hill slope runoff for agricultural land areas across the Midwestern United States every day for Hydrologic Unit Code 12 (HUC 12) size watersheds. Results are posted every morning on the Internet at dailyerosion.org. Currently DEP covers all of Iowa and portions of Kansas and Minnesota, but expansion of coverage is ongoing. The integration of highly resolute spatial and temporal climate data, soil properties, crop rotation and residue management data affords the opportunity to test the effects of using multiple conservation practices on the transport and fate of water borne nutrients, especially phosphorus, on the Midwestern United States agricultural landscapes. Understanding the interaction of different environmental and land management practices on phosphorus movement will allow data from the DEP to guide conservation efforts as expansion continues into surrounding Midwestern states. The presentation will provide an overview of the DEP technology, including how input data are derived and used to make daily erosion estimates on over 200,000 flowpaths in the modelling area, as well as a discussion of the ongoing phosphorus transport modelling efforts and plans for future expansion (both land area and model functionality).