WEPP Model Implementation Project with the
USDA - Natural Resources Conservation Service

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The Water Erosion Prediction Project (WEPP) is a physical process-based soil erosion model that can be used to estimate runoff, soil loss, and sediment yield from hillslope profiles, fields, and small watersheds. Initially developed from 1985-1995, WEPP has been applied and validated across a wide range of conditions, both nationally within the USA, and internationally in over 20 countries. Within the USA, the Forest Service utilizes WEPP on a daily basis for assessment of impacts of forest disturbances from roads, timber harvest, and wildfires. Recently, the USDA - Natural Resources Conservation Service (NRCS) has initiated a cooperative effort with the USDA - Agricultural Research Service (ARS) to implement the WEPP model within NRCS for erosion by water assessments. Current work involves development of software to allow application of WEPP by NRCS personnel as well as by Technical Service Providers (TSP). New web-based software recently created at the ARS National Soil Erosion Research Laboratory and NRCS-Information Technology Center (ITC) in Fort Collins, Colorado utilizes representational state transfer (REST) web services. The WEPP REST services allow for inclusion of the WEPP technology in any web-based, desktop or mobile software since database and model execution is accessed remotely on USDA servers. The new WEPP interfaces are now able to access the Land Management Operations Database (LMOD) maintained at the ITC, which contains over 25,000 records on US cropping practices across the country. Other efforts on the project include updating of the nationwide climate database, as well as comparison studies between WEPP and RUSLE2 model predictions.

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