Prediction of Runoff and Sediment Loss by WEPP From a Loblolly Pine Plantation Subjected to Prescribed Burning in East Texas. (S07-carter233135-Poster)

Authors:

- E.A.Carter - *USDA-Forest Service*
- J.P.Field - *University of Arizona*
- K.W.Farrish - *S.F. Austin State University*

Abstract:

Forest management practices often accelerate soil erosion processes due to changes in soil compaction status, reduction in water infiltration, and loss of ground cover. Soil erosion has contributed to the loss of forest productivity and soil sustainability in forested landscapes, the magnitude dependent upon site conditions and management practices. The ability to predict runoff and soil loss from managed sites has the potential to minimize impacts and promote sustainability. Erosion variables related to total runoff and soil loss were measured over a 7 month period from bound plots installed in a managed pine plantation in East Texas and subjected to a prescribed burn; each plot measured 2.4 x 1.8 m. Total runoff and soil loss were estimated to be approximately 60 mm and 324 kg/ha, respectively. The Water Erosion Prediction Project (WEPP) was able to simulate runoff and soil loss that closely matched the observed values. Input parameters related to effective hydraulic conductivity and interrill erodibility were manipulated to simulate observed erosion values under the initial site conditions inputted into the model. Runoff predictions matched observed runoff values more readily while soil loss predictions did not achieve the same level of agreement.

Corresponding Author Information:

Emily Carter
USDA Forest Service
520 Devall Drive
Auburn, AL 36849

phone: 334-826-8700
fax: 334-821-0037
e-mail: eacarter@fs.fed.us

Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 3:00-5:00 pm
Poster Board Number: 1637

Keywords:
erosion, WEPP, Texas, loblolly pine