RHEM Equation Summary

Updated: 5/4/2011

Fe and Fr (friction factors)

Log10(Fe)= 0.599 + (1.137 * *littercover*) +
(2.051 * (*basalcover* + *cryptogams*)) + (1.154 * *rockcover*)
Log10(Fr) = 0.599 + (1.137 * *littercover*) +
(2.051 * (*basalcover* + *cryptogams*)) + (1.154 * *rockcover*)

Ke (Green-Ampt Hydraulic Conductivity)

Shrub Vegetation Community
exp(Keb) = 0.174 - (1.450 * *meanclay*) + (2.975 * *groundcover*) + (0.923 * *canopycover*);
Ke = (Keb * 0.3) * 1.2;

Sod Grass Vegetation Community
exp(Keb) = 0.174 - (1.450 * *meanclay*) + (2.975 * *groundcover*) + (0.923 * *canopycover*)
Ke = (Keb * 0.3) * 0.8

Bunch Grass Vegetation Community
exp(Keb) = 0.174 - (1.450 * *meanclay*) + (2.975 * *groundcover*) + (0.923 * *canopycover*)
Ke = (Keb * 0.3) * 1.0

Forbs Vegetation Community
exp(Keb) = 0.174 - (1.450 * *meanclay*) + (2.975 * *groundcover*) + (0.923 * *canopycover*)
Ke = (Keb * 0.3) * 1.0

Kss (Splash and Sheet erosion parameter)

Shrub Vegetation Community
Log10(Kss) = 4.00836 - (1.17804 * *rockcover*) - (0.98196 * (*littercover* + *canopycover*))

Sod Grass Vegetation Community
Log10(Kss) = 3.13334 - (0.20055 * *canopycover*) - (0.50550 * *littercover*)
Kss = (Kss/1.5)

Bunch Grass Vegetation Community
Log10(Kss) = 3.13334 - (0.20055 * *canopycover*) - (0.50550 * *littercover*);

Forbs Vegetation Community
Log10(Kss) = 3.13334 - (0.20055 * *canopycover*) - (0.50550 * *littercover*)