RHEM Equation Summary

Updated: 6/15/2013

Ft (friction factor)

Log10(Ft) = −0.109 + (1.425 * *littercover)* + (0.442 * *rockcover*) + (1.764 * (*basalcover* + *cryptogams*)) + 2.068S

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*)