

Soil Features
Dewey County, Oklahoma

General

The basis for identifying highly erodible land is the erodibility index of a soil map unit. The erodibility index of a soil is determined by dividing the potential erodibility for each soil by the soil loss tolerance (T) value established for the soil. The T value represents the maximum annual rate of soil erosion that could take place without causing a decline in long-term productivity. A soil map unit with an erodibility index of 8 or more is a highly erodible soil map unit.

Water erosion

Potential erodibility for sheet and rill erosion is estimated by multiplying the following factors of the Universal Soil Loss Equation (USLE):

1. Rainfall and runoff factor (R).
2. Susceptibility of the soil to water erosion (K)
3. Combined effects of slope length and steepness (LS).

The erodibility index for sheet and rill erosion is represented by the formula $RKLS/T$. A soil map unit is highly erodible if the LS factor for the shortest length and minimum percent of slope used and the $RKLS/T$ value equals or exceeds 8

A soil map unit is potentially highly erodible if: (1) the $RKSL/T$ value using the minimum LS factor is less than 8 and (2) the $RKLS/T$ value using the maximum LS factor is equal to or greater than 8.

Wind Erosion.

Potential erodibility from wind erosion is estimated by multiplying the following factors of the Wind Erosion Equation (WEQ).

1. Climatic characterization of wind speed and surface soil moisture (C).
2. The susceptibility of the soil to wind erosion (I).

The erodibility index for wind erosion is represented by the formula CI/T . A soil map unit is highly erodible if the CI/T value equals or exceeds 8.