

For: State and County Offices

Rainfall (R) and Climatic (C) Factors for Soil Erosion Equations

Approved by: Acting Deputy Administrator, Farm Programs



1 Overview

A Background

To support the calculation of erodibility index (EI) and related factors for land eligibility and EBI ranking factor scoring, County Offices must determine the correct Revised Universal Soil Loss Equation Version 1 (RUSLE) factors that apply to all general signup offers.

To ensure timely offer processing and accuracy of R and C factors, State Offices must review the default R and C factors currently used by the Tool for Environmental Resource Results Assessment (TERRA) and the Conservation Online System (COLS), as well as obtain R and C factor maps to provide to County Offices.

B Purpose

This notice provides instructions for:

- reviewing and revising default R and C factors used in TERRA and COLS
- obtaining R and C factors maps.

Disposal Date	Distribution
October 1, 2010	State Offices; State Offices relay to County Offices and NRCS State Offices

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2 Reviewing and Revising Default R and C Factors

A Background on Default R and C Factors

For previous general signups, a single default value for each of the R and C factors was integrated into automated offer processing tools. However, R and C factors can vary within a county. County Offices with multiple R and C factors were instructed to set the default values that represent the majority of cropland. However, to accommodate varying R and C factors, users were permitted to edit the default R and C factors on individual offers, as necessary.

Although some geospatial maps for the R and C factors are available from NRCS, they are not currently integrated into TERRA. Therefore, TERRA and COLS will continue to use default county values for the R and C factors. As in the past, TERRA and COLS users are permitted to overwrite R and C factors depending on the location of the acreage offered.

B Reviewing and Revising Default R and C Factors

In most cases, current default R and C factors are accurate and do not require modification.

State Offices must coordinate with NRCS State Soil Scientists to review current default R and C factors to determine accuracy and to update default R and C factors as necessary.

The CEPD General Signup SharePoint web site contains the following 3 resources that can be used to review and update default R and C factors:

- State spreadsheets with the current county default R and C factor values
- State maps that include county default C factors and NRCS C factor contour lines, based on a **National C factor shapefile** provided by NRCS

Note: NRCS State Soil Scientists may possess higher resolution State C factor maps with additional contour lines. If available, higher resolution maps provided by NRCS should be used to determine if the current default value is correct or requires updating.

- State maps that include county default R factors and NRCS R factor contour lines, based on Agricultural Handbook 703: Predicting soil erosion by water: A guide to conservation planning with the revised universal soil loss equation.

State and County Offices may obtain maps created by the National Office:

- on the CEPD General Signup SharePoint web site available at **<https://fsa.sc.usda.gov/states/cepd/default.aspx>**
- by clicking “Rainfall and Climatic Factor Maps and Spreadsheets”.

If updates are required, State Offices must download the spreadsheet and make any change necessary to the default values. Updated spreadsheets shall be e-mailed to Jean Agapoff at **jean.agapoff@ca.usda.gov** no later than COB July 26, 2010.

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3 How to Obtain R and C Factor Maps

A Obtaining R and C Factor Maps

State Offices shall coordinate with NRCS State Soils Scientists to obtain appropriate R and C factor maps and provide copies to all County Offices. The R factor maps must be of sufficient scale to determine the location of the offered acreage in relation to the applicable R factor value and must be RUSLE-based maps. RUSLE version 2 maps shall **not** be used.

The climatic factor map is needed to calculate the wind erosion equation. State Offices must ensure that these maps are of sufficient scale to determine the location of the offered acreage in relation to the applicable climatic value.

Notes: If higher resolution R and/or C factor maps are not available, then the maps provided by the National Office must be used. See subparagraph 2 B for obtaining maps created by the National Office.

State Offices must supply R and C factor maps to County Offices by COB July 28, 2010.

B Using Alternative R and C Factors Based on Higher Resolution R and C Factor Maps

State Offices must instruct their County Offices to do 1 of the following:

- use only default values for R and C factors
- use R and C factor maps provided by the State Office to determine the appropriate R and C factor for each offer according to subparagraphs C and D.

C Using Nondefault C Factors Based on Higher Resolution C Factor Maps

As appropriate, the County Office may elect to use a C factor that is different than the county default value. To use an alternative C factor, the County Office must ensure the alternative is:

- supported by a map of sufficient scale to determine the location of the offered acres in relation to the applicable C factor
- equal to the nearest C factor contour line that crosses the boundary of the county.

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3 How to Obtain R and C Factor Maps (Continued)

D Using Alternative R Factors Based on Higher Resolution R Factor Maps

As appropriate, the County Office may elect to use an R factor that is different than the county default value. To use an alternative R factor, the County Office must ensure the alternative is:

- supported by a map of sufficient scale to determine the location of the offered acres in relation to the applicable R factor
- equal to the nearest R factor contour line that crosses the boundary of the county.

4 Action

A State Office Action

State Offices shall follow the provisions of this notice, including:

- reviewing default R and C factors and updating as necessary
- obtaining R and C factor maps
- issuing necessary guidance to County Offices about using alternative R and C factors according to subparagraph 3 B.

B County Office Action

County Offices shall obtain a copy of the R and C factor maps from their State Office.