

1.1 Quick Start for WEPS 1.5

WEPS is a comprehensive wind erosion model with many options for inputs and outputs. For basic simulations however, WEPS is simple to operate. The following quick start guide will describe how to make a simple simulation run. To learn the more detailed features of WEPS, see the WEPS User Manual. For NRCS users, see the “Quick Start for NRCS Users of WEPS 1.5” for NRCS specific instructions related to your agency’s use of WEPS.

For Windows 7 users, to start WEPS, go to the circular colored globe “Start” menu at the bottom left corner of the display and select “All Programs”. Navigate to the “USDA Applications” menu, select the “WEPS ver. no.” menu (where “ver. no.” is the WEPS version) and then click the left mouse button on the “WEPS ver. no.” menu option. It will contain the following WEPS icon  to the left of potentially several menu options. Select the desired menu option (“WEPS” in this case). The WEPS main screen will then appear. In summary:

“Start>All Programs>USDA Applications>WEPS ver. no. >WEPS”

Note that the user may see variations on the naming scheme mentioned here, depending upon which release the user has installed and what options they selected during installation. Also, the user may also be able to start WEPS from desktop shortcuts, if selected for inclusion during the installation process.

A Simple Simulation

For a simple simulation, only four types of information are entered on the main WEPS screen.

1. Describe the simulation field geometry by selecting the field shape, dimensions and orientation in the panel labeled “Region”.

Type in the specific coordinate and/or area information (dependent upon the “shape” selected), e.g.: X-Length and Y-Length field dimensions for a “Rectangle” shape, as well as specific field orientation ($\pm 45^\circ$ max) relative to true north, in the “Orientation” box.

2. Select a field location (for weather file selections).

In the panel labeled “Location”, use the mouse to select a Country (if enabled), State (or other country specific designation) and County (or other local designation) from the drop down menu . Coordinates for a location will be automatically selected near the center of the County. The weather stations, both “Cligen and Windgen”, for the selected location will be automatically determined and displayed immediately below the elevation field. The “elevation field” itself will be automatically populated with the value from the currently selected “Cligen” station, which can be overridden by the user, if desired.

3. Select a soil.

In the bottom panel of the window, to the far right of the button labeled ‘Soil’, use the mouse to select a soil from the drop down menu  or via the filechooser “Template” button  (if enabled) next to the labeled “Soil” button.

4. Select a management scenario.

In the bottom panel of the window, to the far right of the button labeled 'Man', use the mouse to select a crop rotation from the drop down menu  or via the filechooser "Template" button  (if enabled) next to the labeled "Man" button.

Once these items are complete, click the 'Run' button  on the tool bar at the top of the screen. You will be asked to enter a name for the simulation run and click 'OK'. Once a run name is entered, you will then see indicators that WEPS is running. When the simulation run is finished, the "Run Summary" report screen will automatically appear on the computer screen .

Run Summary

The Run Summary displays user information, input parameter files, and basic soil loss information by rotation year, crop interval and the average annual soil loss for the total simulation. Soil loss (erosion) output in the Run Summary includes: **Gross Loss**, the average erosion within the field; **Total**, the average total net soil loss from the field; **Creep/Salt**, the average creep plus saltation (≥ 100 μm dia. particles) net erosion from the field; **Suspension**, the average net suspension size (< 100 μm dia. particles) soil loss from the field; and **PM10**, the average net loss of particulate matter less than 10 microns in size from the field.

Exiting WEPS

To exit WEPS click the "Project" (or "File") menu option on the far left of the menu bar at the top right corner of the main screen, then click "Exit". You will be asked if you want to save your current WEPS Project (state of selections made on the interface screen). You will also be asked to confirm if you really want to exit WEPS. Select "Yes" to exit WEPS.

Additional Information

WEPS has the capability for many simulation input options, including adding barriers and specifying numerous management options. WEPS also can optionally produce very detailed output to provide the user with a better understanding of what field conditions and management situations cause soil loss by wind and when. Consult the WEPS User Manual for complete details. For further information regarding WEPS, users should contact:

USDA-ARS Agricultural Systems Research Unit
2150 Centre Ave., Bldg. D Suite 200
Fort Collins, CO 80526

Phone: 970-492-7382

E-mail: weps@ars.usda.gov