

National Nutrient Loss & Soil Carbon Database

NNLSC_DATA

NNLSC_STAT

Database Reference & User's Guide

Download at:

<ftp.brc.tamus.edu/pub/nnlsc/>

**BLACKLAND
RESEARCH CENTER**

720 E. Blackland Rd
Temple, TX 76502

Phone: 254-774-6111
Fax: 254-774-6000

E-mail: spotter@brc.tamus.edu



The nutrient loss database is a catalog of databases and tools developed to aid our understanding of physical processes occurring on U.S. cropland. It contains land use and management patterns, site characteristics, and estimates of water and nutrient cycling, soil loss, nutrient loss, and the change in soil organic carbon over time for hundreds of thousands of cropland situations. Because it combines the diversity of the natural resources employed in agriculture with the variety of management practices in use, the nutrient loss database is a powerful aid in evaluating the relationships between agricultural practices and the resulting impacts upon carbon, nitrogen, and phosphorus fluxes.

Available Online

DATA - National Resource Inventory Microsimulation Model Results

97 Baseline Cropland Results Dataset (97bcr)

97 No Conservation Practice Alternative Dataset (97NoCP)

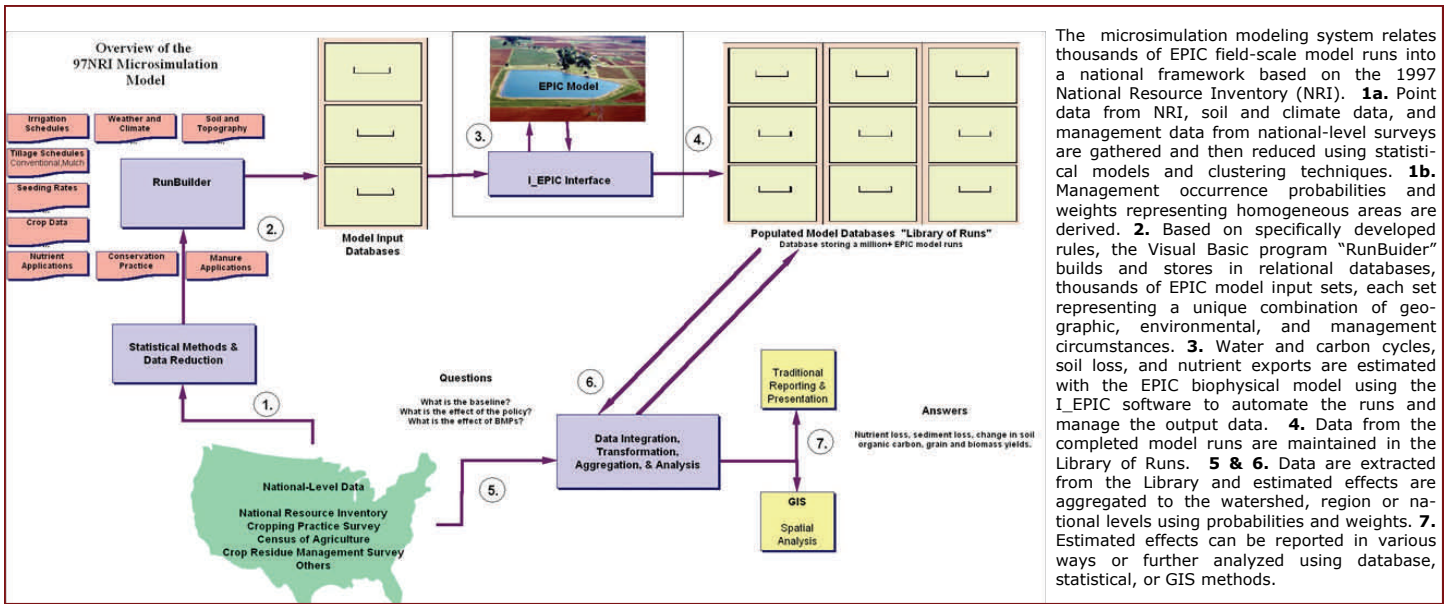
- Attribute, characterization, and definition data which describe the environmental and management conditions represented in the datasets.

- Probability weights for estimating the occurrence frequency of management practices (tillage, chemical fertilizer application, and manure application) represented in the data.

STAT - the Status Trends Analysis Tool

Analytical methods and examples for viewing, querying, processing, and manipulating the data.

Using NRI Simulation Modeling to Identify Priority Cropland Acres for Conservation



The microsimulation modeling system relates thousands of EPIC field-scale model runs into a national framework based on the 1997 National Resource Inventory (NRI). **1a.** Point data from NRI, soil and climate data, and management data from national-level surveys are gathered and then reduced using statistical models and clustering techniques. **1b.** Management occurrence probabilities and weights representing homogeneous areas are derived. **2.** Based on specifically developed rules, the Visual Basic program "RunBuilder" builds and stores in relational databases, thousands of EPIC model input sets, each set representing a unique combination of geographic, environmental, and management circumstances. **3.** Water and carbon cycles, soil loss, and nutrient exports are estimated with the EPIC biophysical model using the I_EPIC software to automate the runs and manage the output data. **4.** Data from the completed model runs are maintained in the Library of Runs. **5 & 6.** Data are extracted from the Library and estimated effects are aggregated to the watershed, region or national levels using probabilities and weights. **7.** Estimated effects can be reported in various ways or further analyzed using database, statistical, or GIS methods.

