Texas A & M University and U.S. Bureau of Reclamation
Hydrologic Modeling Inventory
Model Description Form

JUNE 18, 1999

Name of Model:

Erosion Productivity-Impact Calculator/ Environmental Policy Integrated Climate (EPIC)

Model Type:

Model Objective(s):

 To assess the effect of soil erosion on productivity. Predict the effects of management decisions on soil, water, nutrient, and pesticide movements and their combined impact on soil loss, water quality, and crop yields for areas with homogeneous soils and management.

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Model Structure or Mathematical Basis:

Weather, surface runoff, return flow, percolation, ET, lateral subsurface flow and snow melt. Water Erosion; Wind Erosion; N & P loss in runoff, nitrogen leaching; Organic N & P transport by sediment; N & P mineralization, immobilization and uptake; Denitrification; Mineral P cycling; N fixation; Pesticide fate and transport; Soil temperature
Crop growth and yield for over 80 crops; Crop rotations; Tillage, Plant Environment control (drainage, irrigation, fertilization, furrow diking, liming); Economic accounting; Waste management(feed yards dairies with or without lagoons).

Model Parameters:
Soil, Weather, tillage and crop parameters supplied with model

Spatial Scale Employed in the Model:

Temporal Scale Employed in the Model:

Input Data Requirements:

Computer Requirements:
DOS under Win 95, 98, WinNT

Model Output:

Parameter Estimation / Model Calibration:

Model Testing and Verification:

Model Sensitivity:

Model Reliability:

Model Application / Case Studies:

Documentation:
EPIC5300 User's Manual

Other Comments: