

**Texas A & M University and U.S. Bureau of Reclamation
Hydrologic Modeling Inventory
Model Description Form
June 2007**

Name of Model: Truckee - Carson Water Operations Model

Model Type: Fortran monthly mass balance accounting model

Model Objective(s) : To simulate various operation scenarios on the Truckee-Carson River systems.

Agency and Office: Bureau of Reclamation, Carson City, NV

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Model Structure or Mathematical Basis: Model keeps track of water by month for period of record of up to 100 years (1901-2000). Model output shows resultant conditions based on set of alternatives. Model has tremendous amount of flexibility in allocating the demands and matching sources of water.

Model Parameters:

Spatial Scale Employed in the Model:

Temporal Scale Employed in the Model: Truckee and Carson River Watershed areas. A comprehensive 1901-2000 historic database exists for hydrologic parameters, inflows, precipitation, and evaporation.

Input Data Requirements: The model requires the following input files: ~TCDATFIL, a 100-year historic hydrology file, ~NCONCOF, an initial condition file, ~NRUNDATA, a parameter file describing all of the options and switches, and ~LINENAME, a file used for writing the output file.

Computer Requirements: FORTRAN compiler. Program consists of over 100 subroutines and over 10,000 lines of code.

Model Output: Four pages of output for each model year. About 404 pages (2,000,000 bytes) produced for each 100 year run. File is usually scanned for key output values.

Parameter Estimation / Model Calibration:

Model Testing and Verification:

Model Sensitivity:

Model Reliability:

Model Application / Case Studies:

Documentation:

Other Comments:

Strengths: The use by the Technical Advisory Team in making decisions. Team recognizes strengths and weaknesses. Use has been extensive in writing the Truckee Carson E.I.S. and subsequent negotiated settlement.

Weaknesses: Undocumented portion of the "black box" which determines historic depletions in the Truckee Meadows.