The importance of parameterization when simulating the hydrologic response of vegetative land-cover change

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Abstract. Computer models of hydrologic systems are frequently used to investigate the hydrologic response of land-cover change. If the modeling results are used to inform resource-management decisions, then providing robust estimates of uncertainty in the simulated response is an important consideration. Here we examine the importance of parameterization, a necessarily subjective process, on uncertainty estimates of the simulated hydrologic response of land-cover change. Specifically, we applied the soil water assessment tool (SWAT) model to a 1.4 km^2 watershed in south Texas to investigate the simulated hydrologic response of brush management (the mechanical removal of woody plants), a discrete land-cover change. The watershed was instrumented before and after brush-management activities were undertaken and estimates of precipitation, streamflow, and evapotranspiration (ET) are available; these data were used to condition and verify the model. The role of parameterization in brush-management simulation was evaluated by constructing two models, one with 12 adjustable parameters (reduced parameterization) and one with 1,305 adjustable parameters (full parameterization). Both models were subjected to global sensitivity analysis as well as Monte Carlo and generalized likelihood uncertainty estimation (GLUE) conditioning to identify important model inputs and to estimate uncertainty in several quantities of interest related to brush management. Many realizations from both parameterizations were identified as "behavioral" in that they reproduce daily mean streamflow acceptably well according to Nash-Sutcliffe model efficiency coefficient, percent bias, and coefficient of determination. However, the total volumetric ET difference resulting from simulated brush management remains highly uncertain after conditioning to daily mean streamflow, indicating that streamflow data alone are not sufficient to inform the model inputs that most influence the simulated outcomes of brush management. Additionally, the reduced-parameterization model grossly underestimates uncertainty in the total volumetric ET difference compared to the full-parameterization model; total volumetric ET difference is a primary metric for evaluating the outcomes of brush management. The failure of the reduced-parameterization model to provide robust uncertainty estimates demonstrates the importance of parameterization when attempting to quantify uncertainty in land-cover change simulations.

1 Introduction

Keywords

– brush management

- land-cover change
- uncertainty analysis
- parameterization
- SWAT

Highlights

- simulated outcome of brush management, a land-cover change, is largely uncertain
- a large number of model inputs influence the simulated outcomes of brush management
- level of parameterization does not affect fit to daily mean streamflow data
- level of parameterization does affect uncertainty estimates in quantities of interest

An important use for computer models of hydrologic systems is simulation of the hydrologic response of land-cover change (Fohrer et al., 2001; DeFries and Eshleman, 2004); many modeling analyses have been undertaken in attempt to better understand how changes in land cover may change the timing and quantity of runoff, recharge, and evapotranspiration (e.g., Schilling et al. (2014); Ahn and Merwade (2017); Chu et al. (2010)). Given the uncertainties that exist in nearly every hydrologic model input dataset, the potential exists for the simulated outcomes to be highly uncertain, even after conditioning to streamflow data. Given this potential uncertainty in model outcomes, quantifying uncertainty in the simulated results of land-cover change is an important consideration, especially if simulation results are to be used in resource management decision making.

Previous research has shown that the subjective process of selecting which model inputs to treat as uncertain (e.g. parameterization) may affect uncertainty estimates in model outcomes (White et al., 2014). Herein, parameterization refers to the subjective and necessary process of selecting uncertain model inputs to treat as adjustable in the conditioning process. We investigate how parameterization may affect the uncertainty quantification process when simulating a discrete, vegetative land-cover change, the mechanical removal of woody plants.

Woody plant encroachment into grasslands has been a worldwide phenomena in the past 150 years (Archer et al., 2011). This encroachment has several ramifications to the ecosystem, including changes to the hydrologic function and response of the surface-water basins (Archer et al., 2011). Woody species are commonly thought to consume a larger quantity of water (by transpiration) in comparison to native grasses (Tennesen, 2008). By removing the woody species and allowing native grasses to reestablish in the area (commonly referred to as "brush management"), changes in the hydrology in the watershed might occur (U.S. Department of Agriculture, 2009).

Many hydrologic modeling analyses have been completed to evaluate the feasibility of applying brush management in order to decrease the quantity of water transpired within a given watershed. (Ben Wu et al., 2001; Lemberg et al., 2002; Brown and Raines, 2002; Afinowicz et al., 2005; Bumgarner and Thompson, 2012; Harwell et al., 2016). However, to date (2017), very few, if any, of the modeling-based, brush management feasibility studies have included uncertainty estimation in the

simulated hydrologic response of brush management, even though substantial uncertainty in other applications of the soil water assessment tool (SWAT) model have been reported (Gassman et al., 2014).

To demonstrate the utility of including uncertainty estimation and to investigate how parameterization may affect the reliability of a model to resolve the hydrologic outcomes of simulated land-cover changes, such as brush management, the soil water assessment tool (SWAT) (Arnold et al., 1998) was applied to a 1.4 km^2 watershed in South Texas. The same watershed assessed in this study was subject of a previous investigation in which multiple types of data (precipitation, streamflow, and evapotranspiration [ET]) were collected (Banta and Slattery, 2011). The objectives of our study are to (1) assess the reliability of a computer model to simulate pre- and post-treatment water budget components in the context of uncertainty, and (2) evaluate the role of model parameterization in the uncertainty estimation process by investigating the number of model inputs that influence the important model outputs.

1.1 Hydrologic Setting

The brush-management simulation described herein is applied to a 1.4 km^2 watershed in the Honeycreek State Natural Area in South Texas (Figure 1). For a complete description of the study area, see Banta and Slattery (2011). Note the watershed analyzed in this study is referred to as the “treatment watershed” in Banta and Slattery (2011).

According to Banta and Slattery (2011), long-term average precipitation near the watershed is 34 inches per year and is equally distributed throughout the calendar year. The watershed generally has gentle slopes (less than 5 percent) with steeper slopes in the stream channel ravines. Clay and clay loam soils overlie the Trinity aquifer outcrop in the watershed; the Trinity aquifer is a regional karst aquifer system (Banta and Slattery, 2011). Before brush management was implemented, the watershed was largely dominated by Juniperus ashei (ashe juniper). Approximately 40% of the ashe juniper land cover was mechanically cleared from the watershed during calendar year 2004 (Homer et al., 2007). The watershed configuration before removal of 40% of the ashe juniper is referred to as the "pre-treatment" configuration. Following ashe-juniper removal, the land returned to a native rangeland land-cover type (referred to hereinafter as the "post-treatment" configuration).

2 Model Construction

The SWAT model was used to simulate the hydrologic response of the watershed, including the effects of brush management. Specifically a SWAT2012 (Arnold et al., 2012b, a) model of the watershed was built using the ArcSWAT tool (Winchell et al., 2007). The resulting model files were incorporated into the model-independent framework of PEST++ V3 (Welter et al., 2015) to facilitate programmatic interaction with the model so that any model input quantity could be treated as a parameter and a variety of model outputs, including derived and processed quantities, can be included in the modeling analysis.

2.1 Datasets

Three datasets were needed to apply the ArcSWAT tool (Winchell et al., 2007), which discretized the watershed into hydrologic response units (HRUs):

- digital elevation model: The 10m National Elevation Dataset (NED) (Maune et al., 2007)
- soil data: The Soil Survey Geographic Database (SSURGO) (Staff, 2016)
- land-cover type: The National Land Cover Database (NLCD) (Homer et al., 2007)

These three datasets were used within the ArcSWAT tool to find unique land slope/soil/land cover combinations across the watershed. These unique combinations became HRUs in the SWAT model. The NED digital elevation model for the watershed was smoothed with a 4-pixel width averaging kernel to remove apparent artifacts.

As part of the previous study that evaluated the effects of brush management at the Honey Creek State Natural Area (Banta and Slattery, 2011), daily total precipitation and ET, and daily mean streamflow were measured during 2001–10 (Figure 2). The methods used to collect the input datasets are described in Banta and Slattery (2011). The precipitation data were used as inputs to the SWAT model whereas the ET and streamflow data were used for conditioning and model evaluation (described below). Because the SWAT model is sensitive to precipitation intensity, the original 5-minute measurements from four precipitation measurement stations in the study area were combined via arithmetic averaging to develop the precipitation input dataset—the averaging was needed to account for missing data caused by instrument issues in order to form a complete precipitation dataset. The National Centers for Environmental Prediction (NCEP) Climate Forecast System Reanalysis (CFSR) (Saha et al., 2014) Global Weather Database was used in the SWAT simulation as the input for weather data when on-site precipitation data were not available (Banta and Slattery, 2011). To account for errors induced by averaging precipitation data and the use of lower-resolution NCEP precipitation data, we treat precipitation as uncertain; the treatment of model inputs as uncertain is discussed in detail in the Parameterization section.

2.2 ArcSWAT

The ArcSWAT tool (Winchell et al., 2007) was used with the previously-described datasets to constructed a SWAT2012 model of the watershed. Surface runoff is simulated with SWAT using the Green-Ampt excess rainfall method (Mein and Larson, 1973; Jeong et al., 2010).

The NLCD 2001 (Homer et al., 2007) land-cover data were modified so that areas of mixed brush-rangeland within the watershed were reclassified as rangeland, which is consistent with site-specific knowledge (Banta and Slattery, 2011).

The application of the ArcSWAT tool with the previously-described datasets resulted in a model with a single subbasin covering the 1.4 km^2 watershed study area with 47 distinct HRUs (Figure 1). A summary of the HRU characteristics is included in Table S1 of the supplementary material; the detailed HRU characteristics obtained by applying the ArcSWAT tool are included in the associated data release (White et al., 2017).

2.3 Model Configurations

The modeling analysis described herein includes two specific simulation periods that correspond to the pre-treatment and post-treatment configurations:

- **conditioning period:** 1 January 2002 to 31 December 2003 (pre-treatment configuration)
- **forecast period:** 1 January 2005 to 31 December 2010 (post-treatment configuration)

The conditioning period and forecast period models simulate years 2001 and 2004, respectively; the initial year of simulation for each model is used as a model warm-up period to remove any transient artifacts from initial conditions.

In a typical modeling feasibility study, the model is constructed and conditioned to pre-treatment (conditioning period) system states, then forecasts are made using the model related to how simulated brush management will affect the hydrology within the watershed.

Here, two distinct SWAT models were constructed. The first SWAT model simulated the pre-treatment configuration and is hereinafter referred to as the "pre-treatment" model. The second SWAT model simulated the post-treatment configuration and is hereinafter referred to as the "post-treatment" model. The only difference between the two SWAT models are specific inputs to HRUs 18, 20, 22, 32, which represented the area of watershed that was converted from evergreen forest (e.g., ashe juniper) to rangeland. Modifications to the input files for the listed HRUs were (herein, references to specific SWAT input variables are shown in all caps):

- maximum canopy interception - the CANMX variable in the .HRU input files
- plant growth cycle - the PLANT_ID and HEAT_UNITS variables in the .MGT input files

In this study, brush management is simulated by modifying the maximum canopy storage and inputs that control the simulated growth cycle for a representative area of the subbasin from evergreen forest to rangeland because this required few assumptions and allowed injection of the desired uncertainty into the simulation workflow. We modified the maximum canopy storage and the plant growth aspects of HRUs 18, 20, 22, and 32 because these inputs directly affect the available precipitation for partitioning and simulated ET processes, respectively, whereas plant-growth variables affect the timing and intensity of simulated ET processes related to the annual plant-growth cycle. In the pre-treatment model, these model inputs were specified to represent ashe juniper land cover for HRUs 18, 20, 22, 32, whereas in the post-treatment model, these inputs for HRUs 18, 20, 22, 32 were specified to represent rangeland land cover, effectively capturing the change in the simulated inputs that corresponds to the brush-management operations that occurred during 2004. See the SWAT theory (Neitsch et al., 2011) and input-output documentation (Arnold et al., 2012a) for more information on the model inputs listed in the .HRU and .MGT files.

2.4 Parameterization

Parameterization is a critical part of any modeling analysis and has received considerable attention in the literature (Abbaspour et al., 2004; Romanowicz et al., 2005; Sexton et al., 2011; Zhenyao et al., 2013; Migliaccio and Chaubey, 2008; Cibin et al., 2010; Gitau and Chaubey, 2010; Du et al., 2013; Malone et al., 2015; Zhang et al., 2016). In this analysis, we investigated two parameterization designs:

- **reduced parameterization** uses the 12 model inputs listed on Table 1 of Arnold et al. (2012b) to represent model input uncertainty. These 12 model inputs are the most cited SWAT model inputs treated as parameters when simulating surface-

water runoff and base-flow processes (Arnold et al., 2012b). The reduced parameterization was, therefore, representative of many SWAT modeling analyses in the literature. For the reduced parameterization model, inputs were adjusted at the watershed scale—that is, all 47 HRUs receive the same value for each of these 12 model inputs (Table 1).

- **full parameterization** used 1,305 model inputs. It builds on the 12 parameters of the reduced parameterization by adding unique multiplier parameters at the HRU scale for each of the 12 parameters in Table 1, and also includes many other model inputs that are not typically adjusted, albeit still uncertain, such as soil properties, and inputs that govern the simulation of plant growth, such as leaf area index (LAI) variables. The full parameterization also includes annual quartile precipitation multipliers to account for uncertainty and potential bias in precipitation estimates (Leta et al., 2015; Renard et al., 2011; Kavetski et al., 2006; Kuczera et al., 2006). See Table S1 of the Supplementary Material for a summary of the full parameterization and the associated data release (White et al., 2017) for a complete description of the full parameterization.

These two parameterizations represent different approaches to hydrologic modeling. From a computational standpoint, the reduced parameterization is more desirable, whereas the full parameterization offers the opportunity for a more complete expression of model input uncertainty.

The SWAT input CANMX is of particular importance in simulating brush management because it controls how much precipitation is available for partitioning, and it is directly affected by land-cover changes. Therefore, CANMX potentially exhibits a strong control of the simulated outcomes of brush management. CANMX is not treated as uncertain in the reduced parameterization as it is not commonly treated as adjustable (Arnold et al., 2012b). However, CANMX is included in the full parameterization and is parameterized as follows (herein, references to specific parameters are shown in italics):

- the parameter *canmx_v* represents the maximum canopy storage for evergreen forest land-cover type HRUs;
- the parameter *canmxfac_07* represents the portion of *canmx_v* that is applied to deciduous forest land-cover type HRUs; and
- the parameter *canmxfac_15* represents the portion of *canmx_v* that is applied to rangeland land-cover type HRUs.

In this way, we can incorporate uncertainty in the values of CANMX for all three land-cover types while also enforcing the relations we expect for the maximum canopy storage between the land cover types. This treatment for CANMX allows both the pre- and post-treatment models to receive the same parameter values for the same land-cover types. Because HRUs 18, 20, 22 and 32 switch from evergreen land cover to rangeland land cover, the CANMX values assigned to these HRUs is in harmony with the CANMX values assigned to other HRUs. The HRUs-scale multipliers, named *canmx_XX*, where *XX* is the HRU number, still account for HRU-scale variability in CANMX for HRUs of the same land cover type. In the reduced parameterization, the parameters *canmx_v*, *canmxfac_07* and *canmxfac_15* are specified values of 13.0 mm, 0.625 times 13.0 mm (8.13 mm) and 0.25 times 13.0 mm (3.25 mm), respectively, which corresponds to the midpoint of the respective parameter ranges.

The upper and lower bound of each parameter was defined using a combination of literature values (Abbaspour, 2015; Douglas-Mankin et al., 2010) and expert knowledge. Collectively, the upper and lower bounds of each parameter forms a multivariate uniform distribution (hereinafter referred to as the "Prior"). Conceptually, the "Prior" is the distribution of "acceptable" parameter values based on hydrologic system knowledge. The upper and lower bound of each parameter is summarized in Table S1 of the Supplementary Material; The upper and lower bounds of the reduced parameterization are distilled on Table 1.

2.5 Model interface

Both the pre- and post-treatment SWAT models must be evaluated repeatedly to simulate hydrologic outcomes of brush management and evaluate the importance of parameterization in said outcomes. To accomplish this repeated evaluation, a model-independent interface to SWAT was constructed. This interface facilitated the translation of parameter values into SWAT model inputs files, the execution of both the pre- and post-treatment SWAT models, and the post-processing of SWAT model output into quantities of interest.

To translate parameter values to SWAT model input files, parameters were assigned two characteristics:

1. Scale: a given parameter is either subbasin scale or HRU scale. Subbasin-scale parameters are applied to all 47 HRUs, whereas an HRU-scale parameter applies only to a specific HRU.
2. Type: a given parameter is either a multiplier-type parameter or a value-type parameter. Multiplier-type parameters are treated as scaling factors against the original SWAT model input variable(s), whereas value-type parameters replace the original SWAT model input variables(s).

The following steps represent a single model evaluation in the model interface:

1. Construct two"base" tables of HRU-scale inputs where the columns are the SWAT model inputs names and the rows are the 47 HRUs (one table for the pre-treatment model and one table for the post-treatment model). Populate these tables with the base input values from the ArcSWAT tool.
2. For each value-type, subbasin-scale parameter, replace the values in the base tables for each corresponding column with the specified parameter value, assigning all HRUs the same value.
3. For each multiplier-type, subbasin-scale parameter, multiply the corresponding column of the base tables by the specified parameter value, scaling all HRUs by the same value.
4. Apply *canmx_v*, *canmxfac_07* and *canmxfac_15* parameters to the CANMX column of both base tables according to the land cover type of each HRU using the previously-described relation between these parameters.
5. For each multiplier-type, HRU-scale parameter, multiply the corresponding row-column location in the base tables by the specified parameter value, scaling only a single entry in the table.
6. Translate the base tables into the appropriate SWAT input files for both the pre- and post-treatment models.

7. Apply precipitation multiplier parameters and write a new SWAT .PCP input file (Arnold et al., 2012a).

8. Apply plant-growth multiplier parameters and write a new SWAT plant-growth database file.

9. Run the pre-treatment model for 2001 through 2010 (the pre-treatment model outputs are needed from 2005–10 for calculation of brush-management quantities of interest).

10. Run the post-treatment model for 2004 through 2010.

11. Post-process both model runs to formulate brush-management quantities of interest and conditioning measures (described in the Evaluation of Brush Management Simulations section).

The forward run process was completed many times as part of both the global sensitivity analysis and the uncertainty analysis (described in the Evaluation of Brush Management Simulations) . For the reduced parameterization, the HRU-scale parameters, precipitation parameters, and plant growth parameters were each assigned a value of 1.0, effectively removing the influence of these parameters on the model outputs.

2.6 Evaluation of Brush Management Simulations

We used uncertainty quantification techniques to investigate how well the previously-described SWAT models simulate the effects of brush management on long-term water budget components. Specifically, after applying the global sensitivity analysis (GSA) method of Morris (Morris, 1991) (hereinafter referred to as the "method of Morris"), we used Monte Carlo analysis (MC) in conjunction with Generalized Likelihood Uncertainty Estimation (GLUE) (Beven and Binley, 1992) to construct prior and behavioral distributions for several model outputs that are important to simulating the outcomes of brush management, which we term quantities of interest (QOIs).

2.7 Quantities of Interest

Output from both the pre- and post-treatment model was processed into QOIs that encompass the simulated pre- and post-treatment long-term water budget components in the simulated watershed:

- **QOI-1:** volumetric conditioning-period (pre-treatment) ET-precipitation ratio
- **QOI-2:** volumetric conditioning-period (pre-treatment) streamflow-precipitation ratio
- **QOI-3:** volumetric forecast-period (post-treatment) ET-precipitation ratio
- **QOI-4:** volumetric forecast-period (post-treatment) streamflow-precipitation ratio
- **QOI-5:** volumetric forecast-period difference between the simulated treated and untreated watershed

The work of Banta and Slattery (2011) includes daily mean streamflow and daily total ET for the watershed during the forecast (post-treatment) period, which means measured values for QOI-1 through QOI-4 are available. Post-treatment streamflow measurements as well as pre- and post-treatment ET measurements are not available in most real-world applications of modeling to support brush management activities. Therefore, we treat QOI-1 through QOI-4 as verification measures to check how well the model reproduces long-term water-budget components, measures that are related to simulating the feasibility of brush management.

QOI-5 is the primary quantity we use to evaluate the effectiveness of brush management: how does the simulated long-term volumetric ET change as a result of brush management? QOI-5 is simulated by running the pre- and post-treatment models for 2004 to 2010 and summing the differences in simulated ET between the two simulations.

2.8 Monte Carlo and GLUE

Monte Carlo analysis (MC) (Tarantola, 2005) was used to investigate the effects of SWAT model input uncertainty on brush-management QOIs. MC was chosen because it employees few assumptions and because the forward model run time is relatively short.

To perform the MC analysis, a one-million parameter set ensemble was drawn from the "Prior" for each of 1,305 elements of the full parameterization using the python module pyEMU (White et al., 2016). Note the upper and lower bound of each parameter are provided in the data release (White et al., 2017) and are summarized in Table S1 in the Supplementary Material. Once the prior parameter ensemble was constructed, the SWEEP utility of the PEST++ software suite (Welter et al., 2015) was used to run the pre- and post-treatment SWAT models for each of the one million realized parameter sets in a distributed, parallel environment using the steps described in the Model Interface section. The result of this process yielded one million values for each of the conditioning measures and brush-management QOIs.

The reduced parameterization was evaluated in a similar fashion. The full-parameterization prior ensemble was modified so that the value of each parameter that was not included in reduced parameterization was fixed at the value representing the midpoint of the parameter's range. In this way, parameters not included in the full parameterization were treated as if they were not in the analysis and are instead "fixed" or "known" model inputs—just as they would be treated in a modeling analysis that only adjusted the 12 inputs of the reduced parameterization. Whereas the midpoint values of the fixed parameters may not be "best" in the sense that they reduce model-to-measurement misfit, they are nonetheless centered within the range of plausibility as described by the "Prior".

The reduced-parameterization prior ensemble was also evaluated using the SWEEP utility in a distributed parallel environment, yielding one million values for each of the conditioning measures and brush-management QOIs.

Once the prior ensembles of both the reduced and full parameterizations were evaluated, the GLUE method of Beven and Binley (1992) was used to condition the prior ensembles. The GLUE method was selected because it accommodates a subjective likelihood function, which allows the conditioning process to be flexible and can simultaneously accommodate several criteria (Beven and Binley, 1992). In this study, the behavioral parameter ensembles are a subset of prior parameter

ensembles which meet three criteria (herein referred to as conditioning measures). Following Moriasi et al. (2007), we selected the following conditioning measures, which are based on daily mean streamflow, to form the behavioral ensemble:

- **CM-1** conditioning-period (pre-treatment) Nash-Sutcliffe model efficiency coefficient (NSE) > 0.75
- **CM-2** conditioning-period (pre-treatment) percent bias $< 5\%$
- **CM-3** conditioning-period (pre-treatment) coefficient of determination (R^2) > 0.85

These conditioning measures are widely used to judge a hydrologic model's ability to reproduce observed daily mean streamflow (Moriasi et al., 2007). Briefly, NSE is a statistic that determines the relative magnitude of simulated residual variance to the observed variance (Nash and Sutcliffe, 1970). Percent bias measures the tendency of the model to systematically over or under simulate the observed data, whereas the coefficient of determination measures the colinearity between simulated and observed pairs. By using all three of these conditioning measures simultaneously, the parameter realizations that "best" reproduce different facets of the observed streamflow data are identified.

Realizations in each of the prior ensembles that satisfied all three of conditioning measures are designated as "behavioral" and, taken together, comprise the reduced and full parameterization behavioral ensembles, respectively. These behavioral ensembles represent parameter realizations that respect the "Prior" but that also reproduce daily mean streamflow acceptably well according to the three conditioning measures. That is, each parameter realization in the full- and reduced-parameterization behavioral ensembles can be considered "calibrated" in that each of these parameter realizations results in simulated daily mean streamflow that acceptably match the observed data according to the three conditioning measures.

2.9 Global Sensitivity Analysis

Given the large difference in the number of parameters between the reduced (12) and full (1,305) parameterizations, the interested reader may be wondering how many of members of the reduced and full parameterizations influence either the conditioning measures or the QOIs or both. In an effort to address this question, we employed the method of Morris (Morris, 1991) which is a "one-at-a-time" GSA method; each parameter is varied, in turn, across the specified range, effectively sampling the sensitivity of QOIs and conditioning measures across parameter space. We used the model independent implementation of the method of Morris encoded in GSA utility of the PEST++ software suite (Morris, 1991; Welter et al., 2015) with 20 discretization points across the range of each parameter.

3 Results

The application of the method of Morris (Morris, 1991) reveals a considerable number of model inputs that influence the conditioning measures as well as the designated brush-management QOIs. Furthermore, the combined Monte Carlo and associated GLUE-based conditioning process (MC-GLUE) analysis reveals a relatively large difference in the estimated range of QOI-5 between the reduced and full parameterization models.

3.1 Global Sensitivity Analysis

Of the 1,305 model inputs treated as parameters, the method of Morris analysis indicates only 194 parameters are non-influential to the three conditioning measures and five brush-management QOIs (See the Supplementary Material for a complete summary of the GSA results, including a table of the five most influential parameters for each QOI and conditioning measure [Tables S2 and S3]). Note that many of the most influential parameters, specifically precipitation multipliers, plant growth parameters, and HRU-scale parameters, are not in the reduced parameterization and are not included in typical hydrologic modeling analyses (Arnold et al., 2012b).

3.2 Monte Carlo

The MC-GLUE analysis yielded 7,155 and 6,846 realizations (out of the 1 million member prior ensembles) that compose the behavioral ensembles for the reduced and full parameterizations, respectively. These behavioral ensembles reproduce the pre-treatment daily mean streamflow data acceptably well according to the three conditioning measures. The relation of prior and behavioral ensembles to the three conditioning measures for the reduced and full parameterizations can be seen graphically on Figure 3. The diagonal panes of Figure 3 show the histograms of each of the three conditioning measures, whereas the off-diagonal panes show the relation between conditioning measures. Parameter realizations within the hatched boxes on Figure 3 collectively form the behavioral ensembles for both the reduced and full parameterization.

3.2.1 Verification QOIs

In general, for both the reduced and full parameterizations, the behavioral distributions for ET-based QOIs (QOI-1 and QOI-3) are similar to prior distributions; conditioning has slightly shifted the distributions towards larger precipitation-ET ratios but has not substantially decreased the width of the distributions. The similarity between prior and behavioral distributions indicates the conditioning process has not changed the uncertainty that exists in model simulated ET. The prior and behavioral distributions of reduced and full parameterizations bracket the measured value for QOI-1, QOI-2 and QOI-3 at the 95% confidence level (Figures 4, 5, and 6).

QOIs related to streamflow (QOI-2 and QOI-4) have markedly different behavioral distributions compared to prior distributions, indicating considerable conditioning of streamflow-sensitive parameters. The measured value for QOI-4 (volumetric forecast-period [post-treatment] streamflow-precipitation ratio) was not bracketed at the 95% confidence level by either behavioral distribution or the prior distribution of the reduced parameterization (Figure 7).

3.2.2 Forecast QOI

The prior uncertainty in the QOI-5 (the simulated difference between the total forecast-period ET in the pre- and post-treatment models) was substantially larger for the full parameterization compared to the reduced parameterization (Figure 8): the reduced parameterization prior uncertainty ranged from approximately -4.1 to -2.1%, whereas the full parameterization model yielded a prior uncertainty that ranged from approximately -7.5 to +0.5%. Note a negative ET difference indicates a decrease in ET as

a result of simulated brush management. The larger range yielded by the full parameterization is a direct outcome of specifying more uncertain parameters that influence QOI-5.

QOI-5 behavioral uncertainty from the reduced parameterization is substantially different than the prior uncertainty; the 95% confidence interval of the reduced parameterization behavioral distribution ranges from -2.5 to -2.0%. The behavioral distribution of QOI-5 yielded by the full parameterization is similar to the prior distribution, but shifted slightly towards positive values; the 95% confidence interval of the full parameterization behavioral distribution ranges from -6.2 to +0.5% (Figure 8a). Only slight differences between the prior and behavioral distributions for the full parameterization, again, indicate the selected conditioning process did not substantially change the reliability in simulated long-term changes in ET as a result of brush management. We attribute the differences in QOI-5 distributions between the reduced and full parameterizations to the model error generated by using a reduced set of parameters to represent SWAT model input uncertainty. Note the prior distribution for the reduced parameterization was also non-parametric compared to the full parameterization counterpart, a numerical artifact we also attribute to the model error induced by the reduced parameterization.

4 Discussion

The full-parameterization behavioral distribution of QOI-5 included a range of possible outcomes from a net decrease to a slight net increase in the ET component of the long-term water budget (Figure 8). This range of possible outcomes stems from the number of model inputs that were identified as uncertain and treated as parameters in the MC-GLUE analysis. The possibility of a net increase in ET following brush management is not unprecedented. Harwell et al. (2016) showed a net decrease in surface-water yield following simulated brush-management activities for one of their simulated subbasins. Furthermore, we have demonstrated that conditioning of a hydrologic model to daily mean streamflow does not necessarily increase the reliability of forecasts made with the model.

This study demonstrates the importance of robust uncertainty quantification to support simulations of brush management, and, more generally, simulating the hydrologic outcomes of land-cover change. Without uncertainty quantification, the simulated outcomes of simulating brush management are simply single points on the behavioral QOI distributions, which conveys no information related to the reliability of the model results. The failure of the reduced-parameterization model to provide robust uncertainty estimates demonstrates the importance of parameterization when attempting to quantify uncertainty in land-cover change simulations. The results of our analysis should not be directly extrapolated to other hydrologic settings that are different from the one described herein.

The MC-GLUE analysis showed that using a reduced parameterization to represent model input uncertainty leads to a misrepresentation and critical underestimation of the uncertainty in QOI-5, leading to artificially high confidence that brush-management activities will decrease the ET component of the water budget by approximately 2.0 to 2.5%. By including a more representative and complete set of parameters to represent model input uncertainty, the resulting QOI-5 uncertainty estimate more appropriately conveys the reliability in the modeled outcome of brush management.

A clear link between level of parameterization and uncertainty estimates for the simulated results of brush management has been demonstrated, and issues such as underestimation of uncertainty and numerical artifacts are shown to be associated with a reduced parameterization. Furthermore, the results of applying the method of Morris revealed more than 1,100 model inputs that were identified as uncertain and that also influence conditioning measures, QOIs or both. Following Sexton et al. (2011), parameters that influence the QOIs must be included in the uncertainty analysis, even if said parameters do not influence the likelihood function (e.g., they are not "identified" by the conditioning data). The demonstrated issues with the level of parameterization raise questions related to the concept of "overparameterization" (Jakeman and Hornberger, 1993) in the context of simulating the hydrologic outcomes of land-cover change. Each of the inputs that were selected for adjustment in the full-parameterization model were deemed uncertain at the start of the modeling analysis; whereas other practitioners may choose different prior distributions and/or ranges for these parameters, we doubt any practitioners would state these model inputs are known with certainty.

There are two avenues to reduce QOI-5 uncertainty: (1) collect information directly about the model input variables that most influence QOI-5—that is, reduce the prior uncertainty of the parameters that represent these inputs or (2) collect additional hydrologic observations that, through conditioning, reduce the uncertainty of parameters that influence QOI-5. We recognize that the ET observation data used to formulate QOI-1 could in fact be used as a condition measure. Given the similarity between QOI-1 and QOI-5, it is possible that the conditioning period ET data could be used to further condition several parameters that influence QOI-5, thereby reducing the behavioral uncertainty of QOI-5. However, the conditioning-period ET data provide a valuable validation of the model's performance, and using these data as a conditioning measure would provide unique and atypical conditioning.

5 Conclusions

This study provided an analysis of the ability of a SWAT model to forecast how brush management affects the long-term water balance within a watershed. The analysis relies on measured streamflow and independently-derived evapotranspiration estimates to condition the parameterized model inputs as well provide a verification of the model's performance during the forecast period. The method of Morris was used to investigate model input influence on conditioning measures and brush-management quantities of interest (QOIs). Following the method of Morris, Monte Carlo and GLUE analyses were used to estimate the uncertainty of brush-management QOIs for the reduced and full parameterization schemes.

Our analysis reveals the importance of robust uncertainty quantification when simulating the outcomes of brush management, especially as it relates to how the model is parameterized. Failure to specify a complete and encompassing parameterization is shown to lead to an underestimation of uncertainty in simulated brush-management outcomes, which may lead to suboptimal water resource decision making.

Given the number of identified uncertain model inputs and the associated specified uncertainty in said inputs, the model-simulated change in the long-term ET in the watershed is largely uncertain and includes a range of possible outcomes from a net negative to a slightly net positive change in long-term ET component of the water budget. The resulting uncertainty in one

of the primary metrics of brush-management effectiveness underscores the importance of robust and conservative uncertainty quantification. Watersheds with different hydrologic response characteristics will obliviously behave differently, but, if modeling is used to evaluate brush-management outcomes, robust uncertainty quantification is needed to place the model results in a representative context.

6 Data availability

A data release that supports the analyses presented herein is available at https://doi.org/10.5066/F7WH2NGR (White et al., 2017). The data release includes files and data needed to reproduce our analyses, including:

1. ESRI ArcMAP 10.2.2 project that includes the ArcSWAT version 2012.10.2.18 project used to create the base model
2. base SWAT2012 input files generated by the ArcSWAT tool
3. PEST++ interface files including python pre- and post-processing scripts

The comma-separated value files used in the reduced and full parameterization Monte Carlo can be generated from the files provided in the data release (White et al., 2017). The ET, precipitation, and streamflow data used for conditioning and verification are available for download as the appendixes to Banta and Slattery (2011) at the U.S. Geological Survey Publication Warehouse (http://pubs.usgs.gov/sir/2011/5226/)

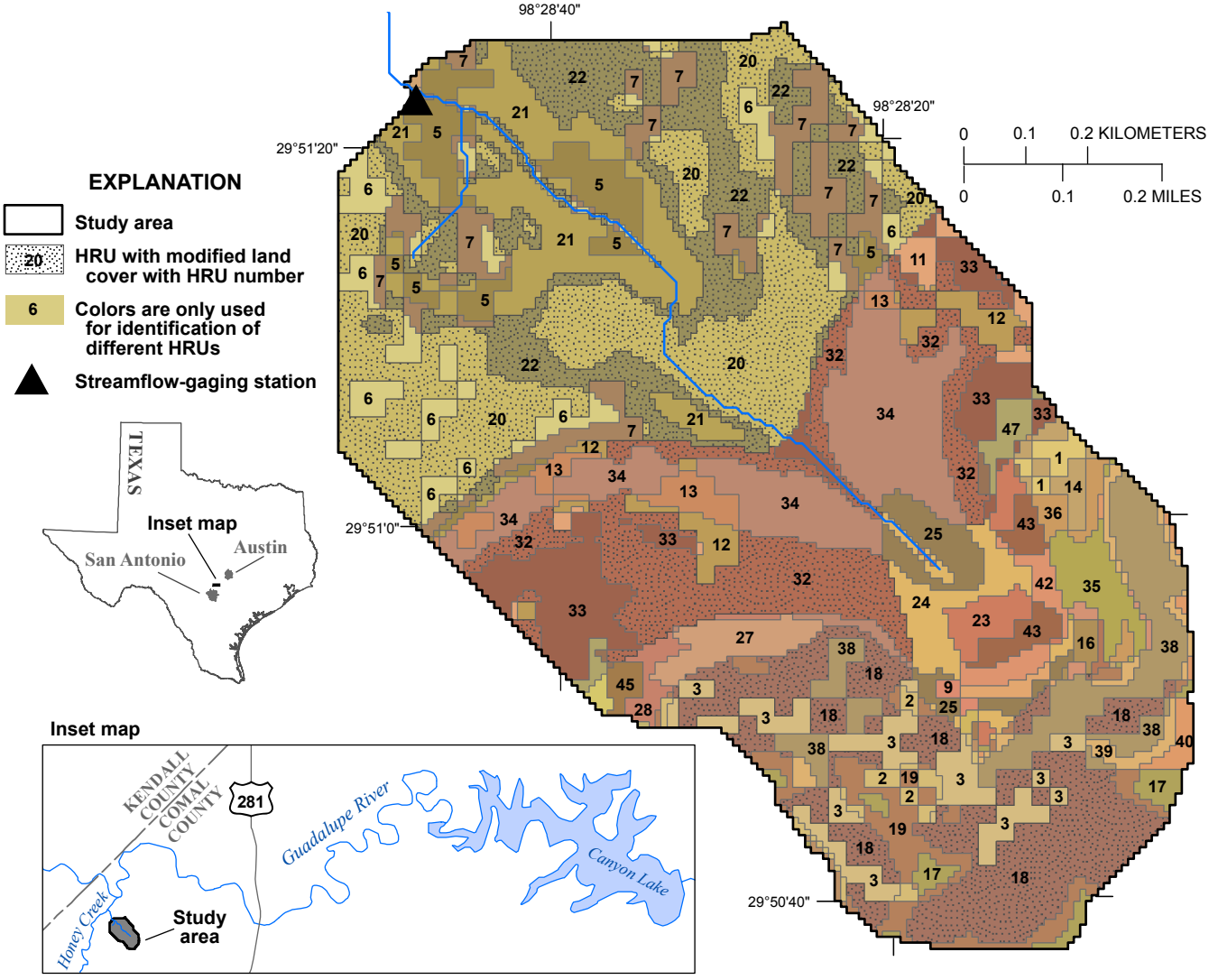

Figure 1. Study area and watershed location. The 47 HRUs yielded by the ArcSWAT tool (Winchell et al., 2007). The model inputs of HRUs 18, 20, 22, and 32 (stippled pattern) were modified to simulate the brush-management activities. Streamflow-gaging station (U.S. Geological Survey streamflow-gaging station 08167353) is on an unnamed stream. Base map from U.S. Geological Survey digital data, 1:24,000 Universal Transverse Mercator projection, Zone 15 North American Datum of 1983.

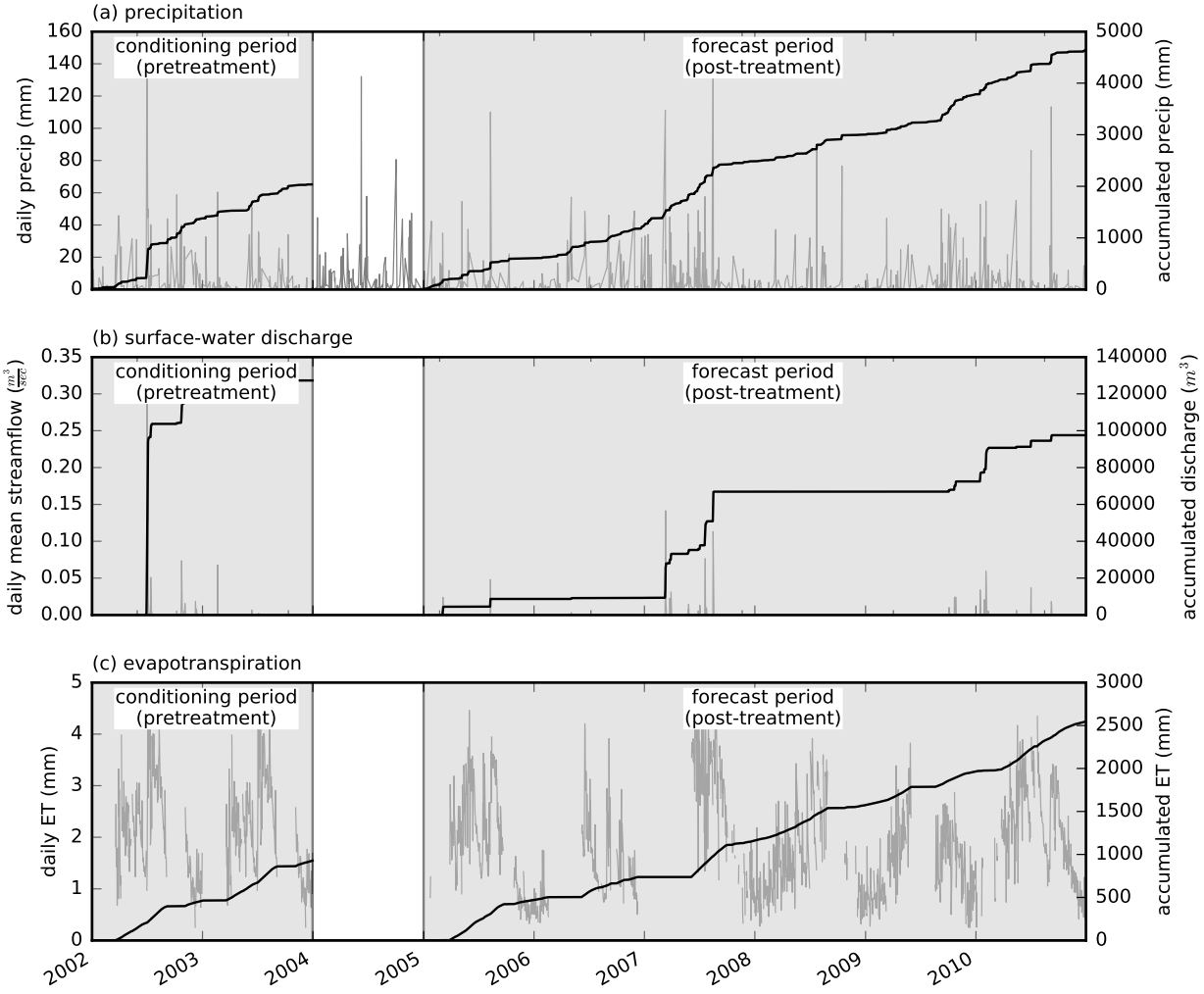

Figure 2. Summary of (a) precipitation, (b) streamflow, and (c) evapotranspiration used in the modeling analysis. Accumulated values for the conditioning and forecast period are shown in heavy black lines. Precipitation, streamflow and evapotranspiration estimates are from Banta and Slattery (2011).

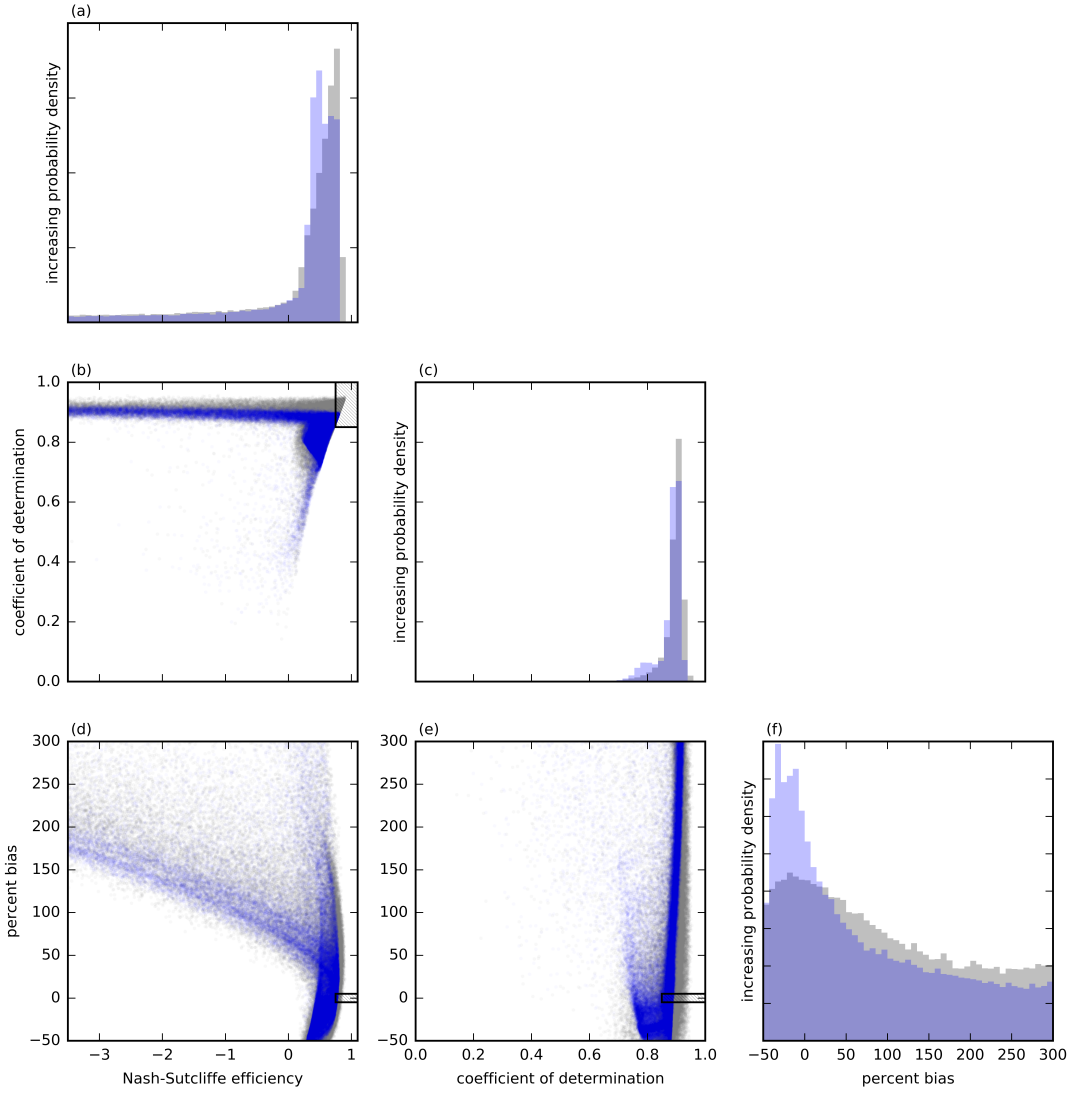

Figure 3. Values of conditioning measures for the full (gray) and reduced (blue) parameterizations. The diagonal panes ([a], [c], and [f]) show distribution of each conditioning measure; the off-diagonal panes ([b], [d] and [e]) show the relation between respective conditioning measures. The hatched boxes mark the 3-dimensional behavioral region; realizations within the hatched boxes comprise the behavioral ensembles of each parameterization.

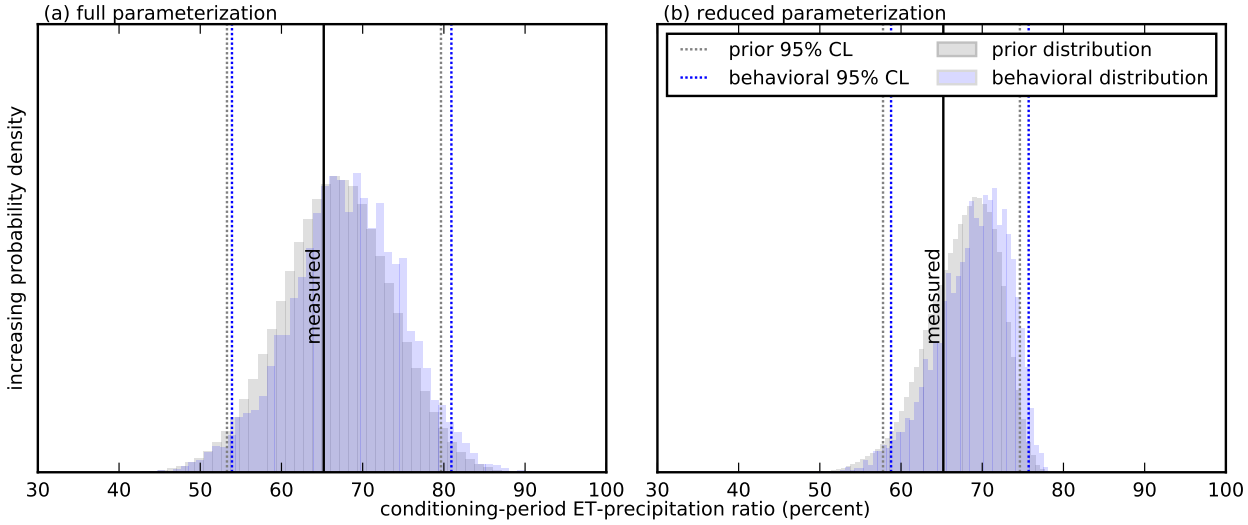

Figure 4. Quantity of interest QOI-1: Simulated conditioning period (pre-treatment) ET as a percentage of precipitation. The prior and behavioral 95% confidence intervals—defined by the confidence limits (CL)—of both model parameterizations bracket the measured value. However, the conditioning process has little affect on uncertainty as the behavioral distribution is similar to the prior distribution.

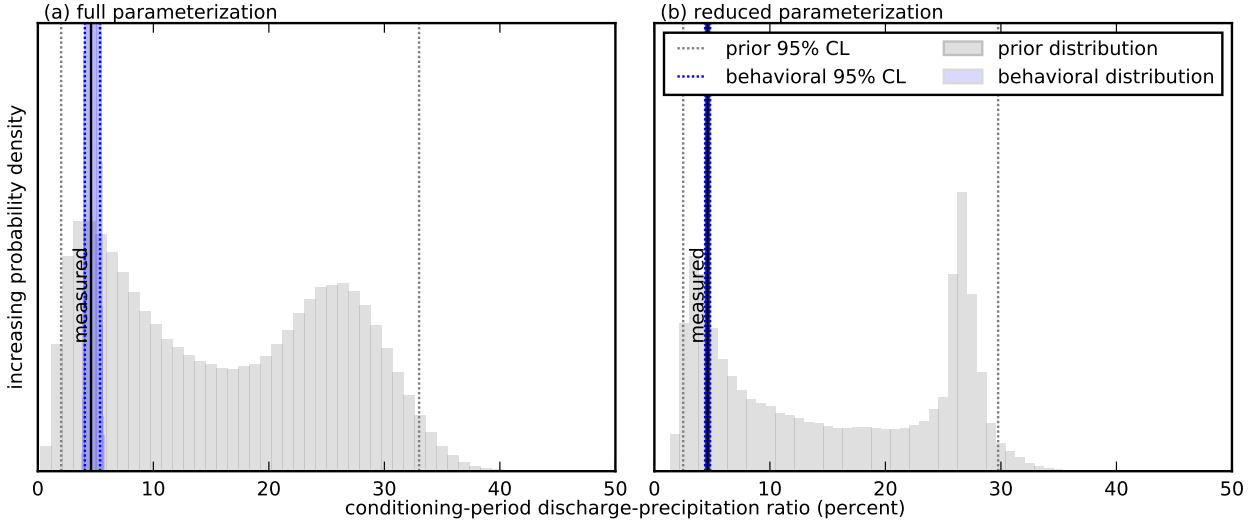

Figure 5. Quantity of interest QOI-2: Simulated conditioning period (pre-treatment) streamflow as a percentage of precipitation. The effects of the conditioning process can be seen as large reduction in the range of the behavioral distribution compared to the prior distribution. The prior and behavioral distributions for model parameterizations bracket the measured value.

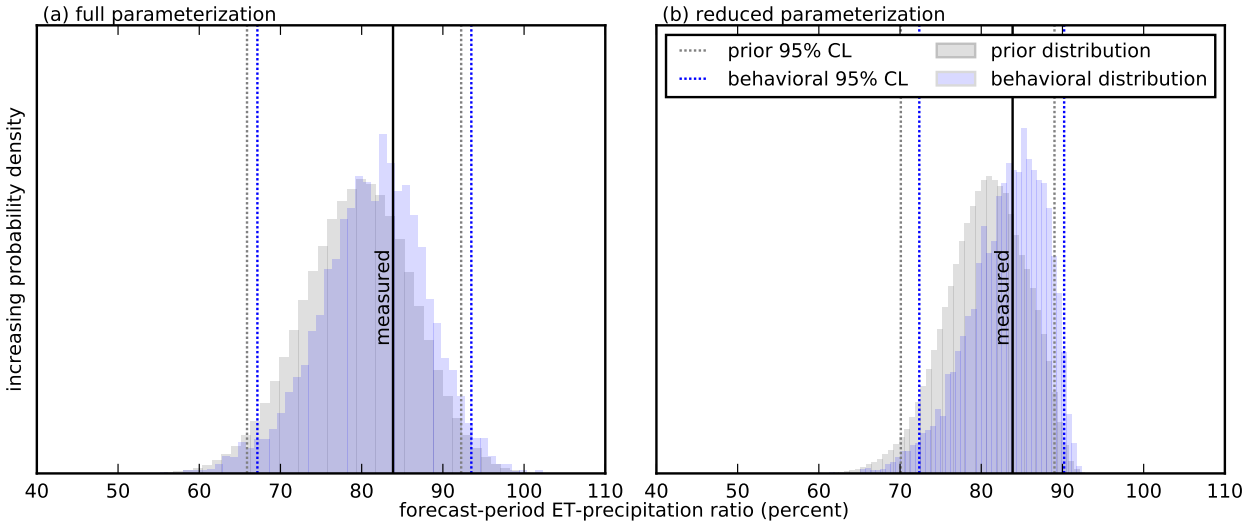

Figure 6. Quantity of interest QOI-3: Simulated forecast period (post-treatment) ET as a percentage of precipitation. All 95% confidence intervals bracket the measured value. However, the conditioning process has done little to decrease uncertainty as the behavioral distributions are similar to the prior distributions for both model parameterizations.

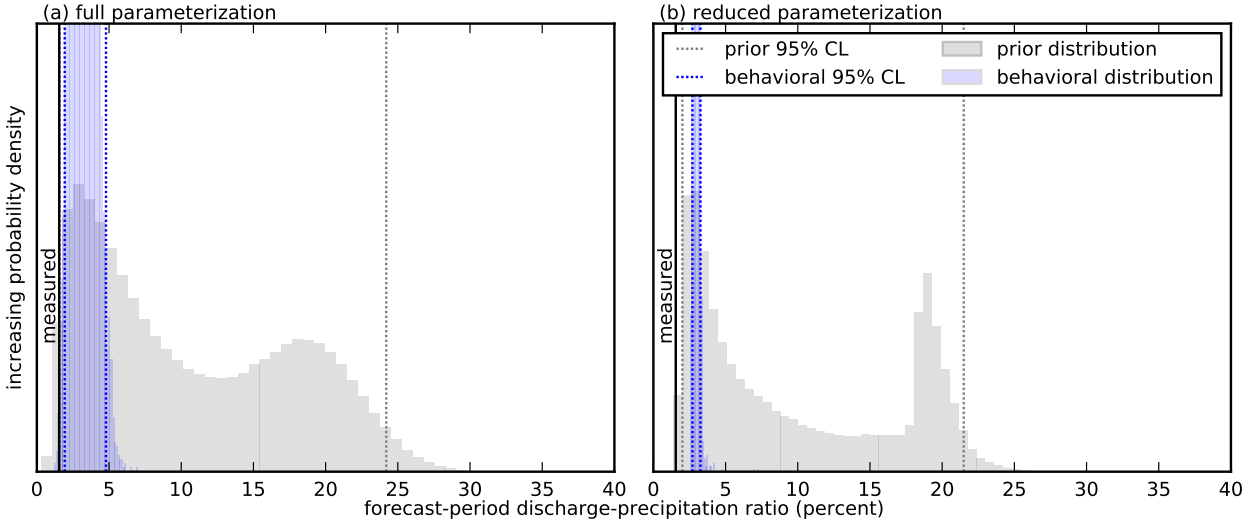

Figure 7. Quantity of interest QOI-4: Simulated forecast period (post-treatment) streamflow as a percentage of precipitation. Both the parameterizations appear to have been "overfit" with respect to this QOI as both behavioral distributions do not bracket the measured value at the 95% confidence level.

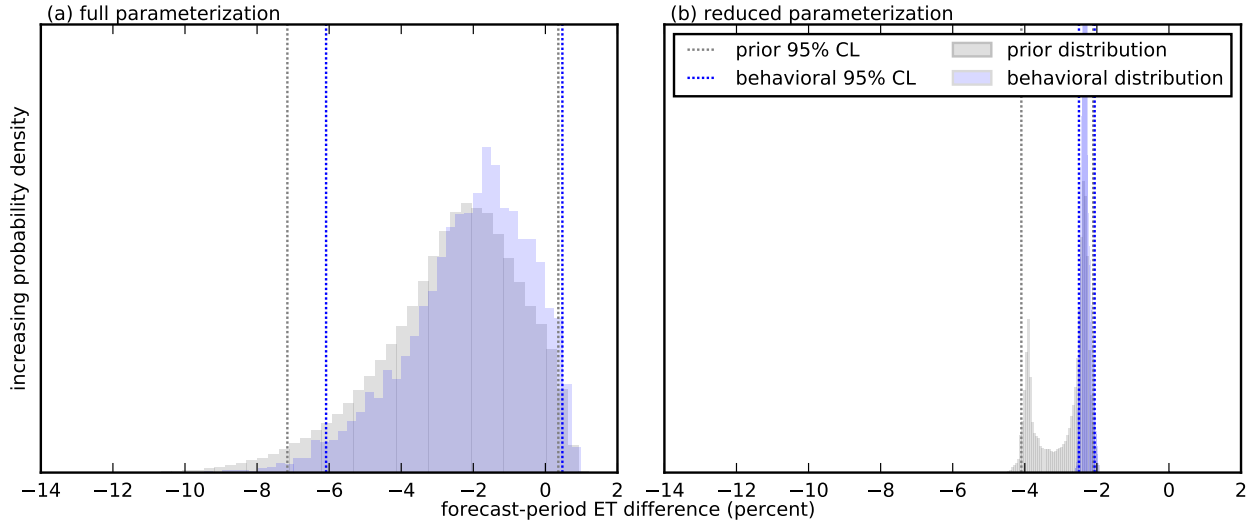

Figure 8. Quantity of interest QOI-5:Simulated difference in total forecast period (post-treatment) ET volume as a result of brush management. Negative values indicate a decrease in ET as a result of brush management. The reduce parameterization yields a much narrower confidence interval compared to the full parameterization.

Table 1. Summary of parameters used in the reduced parameterization. These 12 inputs were selected from Table 1 in Arnold et al. (2012b) and are adjusted at the sub-basin scale.

Parameter	Type	Lower bound	Upper Bound	Description (with units if applicable)
alpha_bf_v	value	0.10	0.50	subbasin baseflow alpha factor (1/d)
cn2_r	multiplier	0.50	1.50	subbasin soil moisture condition II curve number
epco_v	value	0.50	0.98	subbasin plant uptake compensation factor
esco_v	value	0.50	0.98	subbasin soil evaporation compensation factor
gw_delay_v	value	10.00	300.00	subbasin groundwater delay time (days)
gw_revap_v	value	0.02	0.40	subbasin groundwater 'revap' coefficient
gwqmn_v	value	500	4000	subbasin groundwater threshold return flow depth (mm)
ov_n_r	multiplier	0.50	1.50	subbasin overland flow Manning's 'n'
rchrg_dp_v	value	0.25	0.75	subbasin deep aquifer percolation factor
revapmn_v	value	100	1000	subbasin groundwater threshold 'revap' depth (mm)
sol_awc_1_r	multiplier	1.00	5.00	subbasin soil available water capacity (mm/mm)
surlag_v	value	2.00	12.00	subbasin surface runoff lag coefficient

Author contributions. S. Rendon and V. Stengel gathered datasets and applied the ArcSWAT tool to prepared the SWAT model input files with help from J. Banta. J. White subjected the ArcSWAT model inputs files to the global sensitivity analysis and combined Monte Carlo GLUE analysis. J. White prepared the manuscript with contributions from all coauthors.

Competing interests. The authors declare that they have no conflict of interest.

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Supplementary Material: Table S1. Summary of SWAT model input variables included in the full parameters. Parameter descriptions refer to SWAT input variables as described in the SWAT documentation (Arnold and others, 2012a).

Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
alaimin_frsd	value	0.375	1.125	subbasin decidous forest dormant min leaf area index
alaimin_frse	value	0.375	1.125	subbasin evergreen forest dormant min leaf area index
alaimin_rnge	value	0.000	1.000	subbasin rangeland dormant min leaf area index
alpha_bf_01	multiplier	0.850	1.150	HRU 01 baseflow alpha factor (¼)
alpha_bf_02	multiplier	0.850	1.150	HRU 02 baseflow alpha factor (¼)
alpha_bf_03	multiplier	0.850	1.150	HRU 03 baseflow alpha factor (¼)
alpha_bf_04	multiplier	0.850	1.150	HRU 04 baseflow alpha factor (¼)
alpha_bf_05	multiplier	0.850	1.150	HRU 05 baseflow alpha factor (¼)
alpha_bf_06	multiplier	0.850	1.150	HRU 06 baseflow alpha factor (¼)
alpha_bf_07	multiplier	0.850	1.150	HRU 07 baseflow alpha factor (¼)
alpha_bf_08	multiplier	0.850	1.150	HRU 08 baseflow alpha factor (¼)
alpha_bf_09	multiplier	0.850	1.150	HRU 09 baseflow alpha factor (¼)
alpha_bf_10	multiplier	0.850	1.150	HRU 10 baseflow alpha factor (¼)
alpha_bf_11	multiplier	0.850	1.150	HRU 11 baseflow alpha factor (¼)
alpha_bf_12	multiplier	0.850	1.150	HRU 12 baseflow alpha factor (¼)
alpha_bf_13	multiplier	0.850	1.150	HRU 13 baseflow alpha factor (¼)
alpha_bf_14	multiplier	0.850	1.150	HRU 14 baseflow alpha factor (¼)
alpha_bf_15	multiplier	0.850	1.150	HRU 15 baseflow alpha factor (¼)
alpha_bf_16	multiplier	0.850	1.150	HRU 16 baseflow alpha factor (¼)
alpha_bf_17	multiplier	0.850	1.150	HRU 17 baseflow alpha factor (¼)
alpha_bf_18	multiplier	0.850	1.150	HRU 18 baseflow alpha factor (¼)
alpha_bf_19	multiplier	0.850	1.150	HRU 19 baseflow alpha factor (¼)
alpha_bf_20	multiplier	0.850	1.150	HRU 20 baseflow alpha factor (¼)
alpha_bf_21	multiplier	0.850	1.150	HRU 21 baseflow alpha factor (¼)
alpha_bf_22	multiplier	0.850	1.150	HRU 22 baseflow alpha factor (¼)
alpha_bf_23	multiplier	0.850	1.150	HRU 23 baseflow alpha factor (¼)
alpha_bf_24	multiplier	0.850	1.150	HRU 24 baseflow alpha factor (¼)
alpha_bf_25	multiplier	0.850	1.150	HRU 25 baseflow alpha factor (¼)
alpha_bf_26	multiplier	0.850	1.150	HRU 26 baseflow alpha factor (¼)
alpha_bf_27	multiplier	0.850	1.150	HRU 27 baseflow alpha factor (¼)
alpha_bf_28	multiplier	0.850	1.150	HRU 28 baseflow alpha factor (¼)
alpha_bf_29	multiplier	0.850	1.150	HRU 29 baseflow alpha factor (¼)
alpha_bf_30	multiplier	0.850	1.150	HRU 30 baseflow alpha factor (¼)
alpha_bf_31	multiplier	0.850	1.150	HRU 31 baseflow alpha factor (¼)
alpha_bf_32	multiplier	0.850	1.150	HRU 32 baseflow alpha factor (¼)
alpha_bf_33	multiplier	0.850	1.150	HRU 33 baseflow alpha factor (¼)
alpha_bf_34	multiplier	0.850	1.150	HRU 34 baseflow alpha factor (¼)
alpha_bf_35	multiplier	0.850	1.150	HRU 35 baseflow alpha factor (¼)
alpha_bf_36	multiplier	0.850	1.150	HRU 36 baseflow alpha factor (¼)
alpha_bf_37	multiplier	0.850	1.150	HRU 37 baseflow alpha factor (¼)
alpha_bf_38	multiplier	0.850	1.150	HRU 38 baseflow alpha factor (¼)

Continued on next page

Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
alpha_bf_39	multiplier	0.850	1.150	HRU 39 baseflow alpha factor (1/d)
alpha_bf_40	multiplier	0.850	1.150	HRU 40 baseflow alpha factor (1/d)
alpha_bf_41	multiplier	0.850	1.150	HRU 41 baseflow alpha factor (1/d)
alpha_bf_42	multiplier	0.850	1.150	HRU 42 baseflow alpha factor (1/d)
alpha_bf_43	multiplier	0.850	1.150	HRU 43 baseflow alpha factor (1/d)
alpha_bf_44	multiplier	0.850	1.150	HRU 44 baseflow alpha factor (1/d)
alpha_bf_45	multiplier	0.850	1.150	HRU 45 baseflow alpha factor (1/d)
alpha_bf_46	multiplier	0.850	1.150	HRU 46 baseflow alpha factor (1/d)
alpha_bf_47	multiplier	0.850	1.150	HRU 47 baseflow alpha factor (1/d)
alpha_bf_v	value	0.100	0.500	subbasin baseflow alpha factor (1/d)
blai_frsd	value	2.500	7.500	subbasin decidous forest max potential leaf area index
blai_frse	value	2.500	7.500	subbasin evergreen forest max potential leaf area index
blai_rnge	value	1.250	3.750	subbasin rangeland max potential leaf area index
canmx_01	multiplier	0.850	1.150	HRU 01 max canopy storage for evergreen forest (mm)
canmx_02	multiplier	0.850	1.150	HRU 02 max canopy storage for evergreen forest (mm)
canmx_03	multiplier	0.850	1.150	HRU 03 max canopy storage for evergreen forest (mm)
canmx_04	multiplier	0.850	1.150	HRU 04 max canopy storage for evergreen forest (mm)
canmx_05	multiplier	0.850	1.150	HRU 05 max canopy storage for evergreen forest (mm)
canmx_06	multiplier	0.850	1.150	HRU 06 max canopy storage for evergreen forest (mm)
canmx_07	multiplier	0.850	1.150	HRU 07 max canopy storage for evergreen forest (mm)
canmx_08	multiplier	0.850	1.150	HRU 08 max canopy storage for evergreen forest (mm)
canmx_09	multiplier	0.850	1.150	HRU 09 max canopy storage for evergreen forest (mm)
canmx_10	multiplier	0.850	1.150	HRU 10 max canopy storage for evergreen forest (mm)
canmx_11	multiplier	0.850	1.150	HRU 11 max canopy storage for evergreen forest (mm)
canmx_12	multiplier	0.850	1.150	HRU 12 max canopy storage for evergreen forest (mm)
canmx_13	multiplier	0.850	1.150	HRU 13 max canopy storage for evergreen forest (mm)
canmx_14	multiplier	0.850	1.150	HRU 14 max canopy storage for evergreen forest (mm)
canmx_15	multiplier	0.850	1.150	HRU 15 max canopy storage for evergreen forest (mm)
canmx_16	multiplier	0.850	1.150	HRU 16 max canopy storage for evergreen forest (mm)
canmx_17	multiplier	0.850	1.150	HRU 17 max canopy storage for evergreen forest (mm)
canmx_18	multiplier	0.850	1.150	HRU 18 max canopy storage for evergreen forest (mm)
canmx_19	multiplier	0.850	1.150	HRU 19 max canopy storage for evergreen forest (mm)
canmx_20	multiplier	0.850	1.150	HRU 20 max canopy storage for evergreen forest (mm)
canmx_21	multiplier	0.850	1.150	HRU 21 max canopy storage for evergreen forest (mm)
canmx_22	multiplier	0.850	1.150	HRU 22 max canopy storage for evergreen forest (mm)
canmx_23	multiplier	0.850	1.150	HRU 23 max canopy storage for evergreen forest (mm)
canmx_24	multiplier	0.850	1.150	HRU 24 max canopy storage for evergreen forest (mm)
canmx_25	multiplier	0.850	1.150	HRU 25 max canopy storage for evergreen forest (mm)
canmx_26	multiplier	0.850	1.150	HRU 26 max canopy storage for evergreen forest (mm)
canmx_27	multiplier	0.850	1.150	HRU 27 max canopy storage for evergreen forest (mm)
canmx_28	multiplier	0.850	1.150	HRU 28 max canopy storage for evergreen forest (mm)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
canmx_29	multiplier	0.850	1.150	HRU 29 max canopy storage for evergreen forest (mm)
canmx_30	multiplier	0.850	1.150	HRU 30 max canopy storage for evergreen forest (mm)
canmx_31	multiplier	0.850	1.150	HRU 31 max canopy storage for evergreen forest (mm)
canmx_32	multiplier	0.850	1.150	HRU 32 max canopy storage for evergreen forest (mm)
canmx_33	multiplier	0.850	1.150	HRU 33 max canopy storage for evergreen forest (mm)
canmx_34	multiplier	0.850	1.150	HRU 34 max canopy storage for evergreen forest (mm)
canmx_35	multiplier	0.850	1.150	HRU 35 max canopy storage for evergreen forest (mm)
canmx_36	multiplier	0.850	1.150	HRU 36 max canopy storage for evergreen forest (mm)
canmx_37	multiplier	0.850	1.150	HRU 37 max canopy storage for evergreen forest (mm)
canmx_38	multiplier	0.850	1.150	HRU 38 max canopy storage for evergreen forest (mm)
canmx_39	multiplier	0.850	1.150	HRU 39 max canopy storage for evergreen forest (mm)
canmx_40	multiplier	0.850	1.150	HRU 40 max canopy storage for evergreen forest (mm)
canmx_41	multiplier	0.850	1.150	HRU 41 max canopy storage for evergreen forest (mm)
canmx_42	multiplier	0.850	1.150	HRU 42 max canopy storage for evergreen forest (mm)
canmx_43	multiplier	0.850	1.150	HRU 43 max canopy storage for evergreen forest (mm)
canmx_44	multiplier	0.850	1.150	HRU 44 max canopy storage for evergreen forest (mm)
canmx_45	multiplier	0.850	1.150	HRU 45 max canopy storage for evergreen forest (mm)
canmx_46	multiplier	0.850	1.150	HRU 46 max canopy storage for evergreen forest (mm)
canmx_47	multiplier	0.850	1.150	HRU 47 max canopy storage for evergreen forest (mm)
canmx_v	value	1.000	25.000	subbasin max canopy storage for evergreen forest (mm)
canmxfac_07	multiplier	0.250	1.000	HRU 07 decidous forest fraction of max canopy storage
canmxfac_15	multiplier	0.000	0.500	HRU 15 rangeland fraction of max canopy storage
ch_k2_r	multiplier	0.750	2.000	subbasin main channel alluvium hydraulic conductivity ($^{mm}/_{hr}$)
ch_n2_r	multiplier	1.000	5.000	subbasin main channel Manning's 'n'
cn2_01	multiplier	0.850	1.150	HRU 01 soil moisture condition II curve number
cn2_02	multiplier	0.850	1.150	HRU 02 soil moisture condition II curve number
cn2_03	multiplier	0.850	1.150	HRU 03 soil moisture condition II curve number
cn2_04	multiplier	0.850	1.150	HRU 04 soil moisture condition II curve number
cn2_05	multiplier	0.850	1.150	HRU 05 soil moisture condition II curve number
cn2_06	multiplier	0.850	1.150	HRU 06 soil moisture condition II curve number
cn2_07	multiplier	0.850	1.150	HRU 07 soil moisture condition II curve number
cn2_08	multiplier	0.850	1.150	HRU 08 soil moisture condition II curve number
cn2_09	multiplier	0.850	1.150	HRU 09 soil moisture condition II curve number
cn2_10	multiplier	0.850	1.150	HRU 10 soil moisture condition II curve number
cn2_11	multiplier	0.850	1.150	HRU 11 soil moisture condition II curve number
cn2_12	multiplier	0.850	1.150	HRU 12 soil moisture condition II curve number
cn2_13	multiplier	0.850	1.150	HRU 13 soil moisture condition II curve number
cn2_14	multiplier	0.850	1.150	HRU 14 soil moisture condition II curve number
cn2_15	multiplier	0.850	1.150	HRU 15 soil moisture condition II curve number
cn2_16	multiplier	0.850	1.150	HRU 16 soil moisture condition II curve number
cn2_17	multiplier	0.850	1.150	HRU 17 soil moisture condition II curve number

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
cn2_18	multiplier	0.850	1.150	HRU 18 soil moisture condition II curve number
cn2_19	multiplier	0.850	1.150	HRU 19 soil moisture condition II curve number
cn2_20	multiplier	0.850	1.150	HRU 20 soil moisture condition II curve number
cn2_21	multiplier	0.850	1.150	HRU 21 soil moisture condition II curve number
cn2_22	multiplier	0.850	1.150	HRU 22 soil moisture condition II curve number
cn2_23	multiplier	0.850	1.150	HRU 23 soil moisture condition II curve number
cn2_24	multiplier	0.850	1.150	HRU 24 soil moisture condition II curve number
cn2_25	multiplier	0.850	1.150	HRU 25 soil moisture condition II curve number
cn2_26	multiplier	0.850	1.150	HRU 26 soil moisture condition II curve number
cn2_27	multiplier	0.850	1.150	HRU 27 soil moisture condition II curve number
cn2_28	multiplier	0.850	1.150	HRU 28 soil moisture condition II curve number
cn2_29	multiplier	0.850	1.150	HRU 29 soil moisture condition II curve number
cn2_30	multiplier	0.850	1.150	HRU 30 soil moisture condition II curve number
cn2_31	multiplier	0.850	1.150	HRU 31 soil moisture condition II curve number
cn2_32	multiplier	0.850	1.150	HRU 32 soil moisture condition II curve number
cn2_33	multiplier	0.850	1.150	HRU 33 soil moisture condition II curve number
cn2_34	multiplier	0.850	1.150	HRU 34 soil moisture condition II curve number
cn2_35	multiplier	0.850	1.150	HRU 35 soil moisture condition II curve number
cn2_36	multiplier	0.850	1.150	HRU 36 soil moisture condition II curve number
cn2_37	multiplier	0.850	1.150	HRU 37 soil moisture condition II curve number
cn2_38	multiplier	0.850	1.150	HRU 38 soil moisture condition II curve number
cn2_39	multiplier	0.850	1.150	HRU 39 soil moisture condition II curve number
cn2_40	multiplier	0.850	1.150	HRU 40 soil moisture condition II curve number
cn2_41	multiplier	0.850	1.150	HRU 41 soil moisture condition II curve number
cn2_42	multiplier	0.850	1.150	HRU 42 soil moisture condition II curve number
cn2_43	multiplier	0.850	1.150	HRU 43 soil moisture condition II curve number
cn2_44	multiplier	0.850	1.150	HRU 44 soil moisture condition II curve number
cn2_45	multiplier	0.850	1.150	HRU 45 soil moisture condition II curve number
cn2_46	multiplier	0.850	1.150	HRU 46 soil moisture condition II curve number
cn2_47	multiplier	0.850	1.150	HRU 47 soil moisture condition II curve number
cn2_r	multiplier	0.500	1.500	subbasin soil moisture condition II curve number
cncoef_r	multiplier	0.500	1.500	subbasin plant ET curve number coefficient
dlai_frsd	value	0.495	1.485	subbasin decidous forest frac growing season to start LAI decline
dlai_frse	value	0.495	1.485	subbasin evergreen forest frac growing season to start LAI decline
dlai_rnge	value	0.175	0.525	subbasin rangeland frac growing season to start LAI decline
dorm_hr_v	value	0.000	4.000	subbasin dormancy time threshold (hrs)
epco_01	multiplier	0.850	1.150	HRU 01 plant uptake compensation factor
epco_02	multiplier	0.850	1.150	HRU 02 plant uptake compensation factor
epco_03	multiplier	0.850	1.150	HRU 03 plant uptake compensation factor
epco_04	multiplier	0.850	1.150	HRU 04 plant uptake compensation factor
epco_05	multiplier	0.850	1.150	HRU 05 plant uptake compensation factor

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
epco_06	multiplier	0.850	1.150	HRU 06 plant uptake compensation factor
epco_07	multiplier	0.850	1.150	HRU 07 plant uptake compensation factor
epco_08	multiplier	0.850	1.150	HRU 08 plant uptake compensation factor
epco_09	multiplier	0.850	1.150	HRU 09 plant uptake compensation factor
epco_10	multiplier	0.850	1.150	HRU 10 plant uptake compensation factor
epco_11	multiplier	0.850	1.150	HRU 11 plant uptake compensation factor
epco_12	multiplier	0.850	1.150	HRU 12 plant uptake compensation factor
epco_13	multiplier	0.850	1.150	HRU 13 plant uptake compensation factor
epco_14	multiplier	0.850	1.150	HRU 14 plant uptake compensation factor
epco_15	multiplier	0.850	1.150	HRU 15 plant uptake compensation factor
epco_16	multiplier	0.850	1.150	HRU 16 plant uptake compensation factor
epco_17	multiplier	0.850	1.150	HRU 17 plant uptake compensation factor
epco_18	multiplier	0.850	1.150	HRU 18 plant uptake compensation factor
epco_19	multiplier	0.850	1.150	HRU 19 plant uptake compensation factor
epco_20	multiplier	0.850	1.150	HRU 20 plant uptake compensation factor
epco_21	multiplier	0.850	1.150	HRU 21 plant uptake compensation factor
epco_22	multiplier	0.850	1.150	HRU 22 plant uptake compensation factor
epco_23	multiplier	0.850	1.150	HRU 23 plant uptake compensation factor
epco_24	multiplier	0.850	1.150	HRU 24 plant uptake compensation factor
epco_25	multiplier	0.850	1.150	HRU 25 plant uptake compensation factor
epco_26	multiplier	0.850	1.150	HRU 26 plant uptake compensation factor
epco_27	multiplier	0.850	1.150	HRU 27 plant uptake compensation factor
epco_28	multiplier	0.850	1.150	HRU 28 plant uptake compensation factor
epco_29	multiplier	0.850	1.150	HRU 29 plant uptake compensation factor
epco_30	multiplier	0.850	1.150	HRU 30 plant uptake compensation factor
epco_31	multiplier	0.850	1.150	HRU 31 plant uptake compensation factor
epco_32	multiplier	0.850	1.150	HRU 32 plant uptake compensation factor
epco_33	multiplier	0.850	1.150	HRU 33 plant uptake compensation factor
epco_34	multiplier	0.850	1.150	HRU 34 plant uptake compensation factor
epco_35	multiplier	0.850	1.150	HRU 35 plant uptake compensation factor
epco_36	multiplier	0.850	1.150	HRU 36 plant uptake compensation factor
epco_37	multiplier	0.850	1.150	HRU 37 plant uptake compensation factor
epco_38	multiplier	0.850	1.150	HRU 38 plant uptake compensation factor
epco_39	multiplier	0.850	1.150	HRU 39 plant uptake compensation factor
epco_40	multiplier	0.850	1.150	HRU 40 plant uptake compensation factor
epco_41	multiplier	0.850	1.150	HRU 41 plant uptake compensation factor
epco_42	multiplier	0.850	1.150	HRU 42 plant uptake compensation factor
epco_43	multiplier	0.850	1.150	HRU 43 plant uptake compensation factor
epco_44	multiplier	0.850	1.150	HRU 44 plant uptake compensation factor
epco_45	multiplier	0.850	1.150	HRU 45 plant uptake compensation factor
epco_46	multiplier	0.850	1.150	HRU 46 plant uptake compensation factor

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
epco_47	multiplier	0.850	1.150	HRU 47 plant uptake compensation factor
epco_v	value	0.500	0.980	subbasin plant uptake compensation factor
esco_01	multiplier	0.850	1.150	HRU 01 soil evaporation compensation factor
esco_02	multiplier	0.850	1.150	HRU 02 soil evaporation compensation factor
esco_03	multiplier	0.850	1.150	HRU 03 soil evaporation compensation factor
esco_04	multiplier	0.850	1.150	HRU 04 soil evaporation compensation factor
esco_05	multiplier	0.850	1.150	HRU 05 soil evaporation compensation factor
esco_06	multiplier	0.850	1.150	HRU 06 soil evaporation compensation factor
esco_07	multiplier	0.850	1.150	HRU 07 soil evaporation compensation factor
esco_08	multiplier	0.850	1.150	HRU 08 soil evaporation compensation factor
esco_09	multiplier	0.850	1.150	HRU 09 soil evaporation compensation factor
esco_10	multiplier	0.850	1.150	HRU 10 soil evaporation compensation factor
esco_11	multiplier	0.850	1.150	HRU 11 soil evaporation compensation factor
esco_12	multiplier	0.850	1.150	HRU 12 soil evaporation compensation factor
esco_13	multiplier	0.850	1.150	HRU 13 soil evaporation compensation factor
esco_14	multiplier	0.850	1.150	HRU 14 soil evaporation compensation factor
esco_15	multiplier	0.850	1.150	HRU 15 soil evaporation compensation factor
esco_16	multiplier	0.850	1.150	HRU 16 soil evaporation compensation factor
esco_17	multiplier	0.850	1.150	HRU 17 soil evaporation compensation factor
esco_18	multiplier	0.850	1.150	HRU 18 soil evaporation compensation factor
esco_19	multiplier	0.850	1.150	HRU 19 soil evaporation compensation factor
esco_20	multiplier	0.850	1.150	HRU 20 soil evaporation compensation factor
esco_21	multiplier	0.850	1.150	HRU 21 soil evaporation compensation factor
esco_22	multiplier	0.850	1.150	HRU 22 soil evaporation compensation factor
esco_23	multiplier	0.850	1.150	HRU 23 soil evaporation compensation factor
esco_24	multiplier	0.850	1.150	HRU 24 soil evaporation compensation factor
esco_25	multiplier	0.850	1.150	HRU 25 soil evaporation compensation factor
esco_26	multiplier	0.850	1.150	HRU 26 soil evaporation compensation factor
esco_27	multiplier	0.850	1.150	HRU 27 soil evaporation compensation factor
esco_28	multiplier	0.850	1.150	HRU 28 soil evaporation compensation factor
esco_29	multiplier	0.850	1.150	HRU 29 soil evaporation compensation factor
esco_30	multiplier	0.850	1.150	HRU 30 soil evaporation compensation factor
esco_31	multiplier	0.850	1.150	HRU 31 soil evaporation compensation factor
esco_32	multiplier	0.850	1.150	HRU 32 soil evaporation compensation factor
esco_33	multiplier	0.850	1.150	HRU 33 soil evaporation compensation factor
esco_34	multiplier	0.850	1.150	HRU 34 soil evaporation compensation factor
esco_35	multiplier	0.850	1.150	HRU 35 soil evaporation compensation factor
esco_36	multiplier	0.850	1.150	HRU 36 soil evaporation compensation factor
esco_37	multiplier	0.850	1.150	HRU 37 soil evaporation compensation factor
esco_38	multiplier	0.850	1.150	HRU 38 soil evaporation compensation factor
esco_39	multiplier	0.850	1.150	HRU 39 soil evaporation compensation factor

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
esco_40	multiplier	0.850	1.150	HRU 40 soil evaporation compensation factor
esco_41	multiplier	0.850	1.150	HRU 41 soil evaporation compensation factor
esco_42	multiplier	0.850	1.150	HRU 42 soil evaporation compensation factor
esco_43	multiplier	0.850	1.150	HRU 43 soil evaporation compensation factor
esco_44	multiplier	0.850	1.150	HRU 44 soil evaporation compensation factor
esco_45	multiplier	0.850	1.150	HRU 45 soil evaporation compensation factor
esco_46	multiplier	0.850	1.150	HRU 46 soil evaporation compensation factor
esco_47	multiplier	0.850	1.150	HRU 47 soil evaporation compensation factor
esco_v	value	0.500	0.980	subbasin soil evaporation compensation factor
evrch_r	multiplier	0.500	1.500	subbasin reach evaportation adjustment factor
gw_delay_01	multiplier	0.850	1.150	HRU 01 groundwater delay time (days)
gw_delay_02	multiplier	0.850	1.150	HRU 02 groundwater delay time (days)
gw_delay_03	multiplier	0.850	1.150	HRU 03 groundwater delay time (days)
gw_delay_04	multiplier	0.850	1.150	HRU 04 groundwater delay time (days)
gw_delay_05	multiplier	0.850	1.150	HRU 05 groundwater delay time (days)
gw_delay_06	multiplier	0.850	1.150	HRU 06 groundwater delay time (days)
gw_delay_07	multiplier	0.850	1.150	HRU 07 groundwater delay time (days)
gw_delay_08	multiplier	0.850	1.150	HRU 08 groundwater delay time (days)
gw_delay_09	multiplier	0.850	1.150	HRU 09 groundwater delay time (days)
gw_delay_10	multiplier	0.850	1.150	HRU 10 groundwater delay time (days)
gw_delay_11	multiplier	0.850	1.150	HRU 11 groundwater delay time (days)
gw_delay_12	multiplier	0.850	1.150	HRU 12 groundwater delay time (days)
gw_delay_13	multiplier	0.850	1.150	HRU 13 groundwater delay time (days)
gw_delay_14	multiplier	0.850	1.150	HRU 14 groundwater delay time (days)
gw_delay_15	multiplier	0.850	1.150	HRU 15 groundwater delay time (days)
gw_delay_16	multiplier	0.850	1.150	HRU 16 groundwater delay time (days)
gw_delay_17	multiplier	0.850	1.150	HRU 17 groundwater delay time (days)
gw_delay_18	multiplier	0.850	1.150	HRU 18 groundwater delay time (days)
gw_delay_19	multiplier	0.850	1.150	HRU 19 groundwater delay time (days)
gw_delay_20	multiplier	0.850	1.150	HRU 20 groundwater delay time (days)
gw_delay_21	multiplier	0.850	1.150	HRU 21 groundwater delay time (days)
gw_delay_22	multiplier	0.850	1.150	HRU 22 groundwater delay time (days)
gw_delay_23	multiplier	0.850	1.150	HRU 23 groundwater delay time (days)
gw_delay_24	multiplier	0.850	1.150	HRU 24 groundwater delay time (days)
gw_delay_25	multiplier	0.850	1.150	HRU 25 groundwater delay time (days)
gw_delay_26	multiplier	0.850	1.150	HRU 26 groundwater delay time (days)
gw_delay_27	multiplier	0.850	1.150	HRU 27 groundwater delay time (days)
gw_delay_28	multiplier	0.850	1.150	HRU 28 groundwater delay time (days)
gw_delay_29	multiplier	0.850	1.150	HRU 29 groundwater delay time (days)
gw_delay_30	multiplier	0.850	1.150	HRU 30 groundwater delay time (days)
gw_delay_31	multiplier	0.850	1.150	HRU 31 groundwater delay time (days)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
gw_delay_32	multiplier	0.850	1.150	HRU 32 groundwater delay time (days)
gw_delay_33	multiplier	0.850	1.150	HRU 33 groundwater delay time (days)
gw_delay_34	multiplier	0.850	1.150	HRU 34 groundwater delay time (days)
gw_delay_35	multiplier	0.850	1.150	HRU 35 groundwater delay time (days)
gw_delay_36	multiplier	0.850	1.150	HRU 36 groundwater delay time (days)
gw_delay_37	multiplier	0.850	1.150	HRU 37 groundwater delay time (days)
gw_delay_38	multiplier	0.850	1.150	HRU 38 groundwater delay time (days)
gw_delay_39	multiplier	0.850	1.150	HRU 39 groundwater delay time (days)
gw_delay_40	multiplier	0.850	1.150	HRU 40 groundwater delay time (days)
gw_delay_41	multiplier	0.850	1.150	HRU 41 groundwater delay time (days)
gw_delay_42	multiplier	0.850	1.150	HRU 42 groundwater delay time (days)
gw_delay_43	multiplier	0.850	1.150	HRU 43 groundwater delay time (days)
gw_delay_44	multiplier	0.850	1.150	HRU 44 groundwater delay time (days)
gw_delay_45	multiplier	0.850	1.150	HRU 45 groundwater delay time (days)
gw_delay_46	multiplier	0.850	1.150	HRU 46 groundwater delay time (days)
gw_delay_47	multiplier	0.850	1.150	HRU 47 groundwater delay time (days)
gw_delay_v	value	10.000	300.000	subbasin groundwater delay time (days)
gw_revap_01	multiplier	0.850	1.150	HRU 01 groundwater 'revap' coefficient
gw_revap_02	multiplier	0.850	1.150	HRU 02 groundwater 'revap' coefficient
gw_revap_03	multiplier	0.850	1.150	HRU 03 groundwater 'revap' coefficient
gw_revap_04	multiplier	0.850	1.150	HRU 04 groundwater 'revap' coefficient
gw_revap_05	multiplier	0.850	1.150	HRU 05 groundwater 'revap' coefficient
gw_revap_06	multiplier	0.850	1.150	HRU 06 groundwater 'revap' coefficient
gw_revap_07	multiplier	0.850	1.150	HRU 07 groundwater 'revap' coefficient
gw_revap_08	multiplier	0.850	1.150	HRU 08 groundwater 'revap' coefficient
gw_revap_09	multiplier	0.850	1.150	HRU 09 groundwater 'revap' coefficient
gw_revap_10	multiplier	0.850	1.150	HRU 10 groundwater 'revap' coefficient
gw_revap_11	multiplier	0.850	1.150	HRU 11 groundwater 'revap' coefficient
gw_revap_12	multiplier	0.850	1.150	HRU 12 groundwater 'revap' coefficient
gw_revap_13	multiplier	0.850	1.150	HRU 13 groundwater 'revap' coefficient
gw_revap_14	multiplier	0.850	1.150	HRU 14 groundwater 'revap' coefficient
gw_revap_15	multiplier	0.850	1.150	HRU 15 groundwater 'revap' coefficient
gw_revap_16	multiplier	0.850	1.150	HRU 16 groundwater 'revap' coefficient
gw_revap_17	multiplier	0.850	1.150	HRU 17 groundwater 'revap' coefficient
gw_revap_18	multiplier	0.850	1.150	HRU 18 groundwater 'revap' coefficient
gw_revap_19	multiplier	0.850	1.150	HRU 19 groundwater 'revap' coefficient
gw_revap_20	multiplier	0.850	1.150	HRU 20 groundwater 'revap' coefficient
gw_revap_21	multiplier	0.850	1.150	HRU 21 groundwater 'revap' coefficient
gw_revap_22	multiplier	0.850	1.150	HRU 22 groundwater 'revap' coefficient
gw_revap_23	multiplier	0.850	1.150	HRU 23 groundwater 'revap' coefficient
gw_revap_24	multiplier	0.850	1.150	HRU 24 groundwater 'revap' coefficient

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
gw_revap_25	multiplier	0.850	1.150	HRU 25 groundwater 'revap' coefficient
gw_revap_26	multiplier	0.850	1.150	HRU 26 groundwater 'revap' coefficient
gw_revap_27	multiplier	0.850	1.150	HRU 27 groundwater 'revap' coefficient
gw_revap_28	multiplier	0.850	1.150	HRU 28 groundwater 'revap' coefficient
gw_revap_29	multiplier	0.850	1.150	HRU 29 groundwater 'revap' coefficient
gw_revap_30	multiplier	0.850	1.150	HRU 30 groundwater 'revap' coefficient
gw_revap_31	multiplier	0.850	1.150	HRU 31 groundwater 'revap' coefficient
gw_revap_32	multiplier	0.850	1.150	HRU 32 groundwater 'revap' coefficient
gw_revap_33	multiplier	0.850	1.150	HRU 33 groundwater 'revap' coefficient
gw_revap_34	multiplier	0.850	1.150	HRU 34 groundwater 'revap' coefficient
gw_revap_35	multiplier	0.850	1.150	HRU 35 groundwater 'revap' coefficient
gw_revap_36	multiplier	0.850	1.150	HRU 36 groundwater 'revap' coefficient
gw_revap_37	multiplier	0.850	1.150	HRU 37 groundwater 'revap' coefficient
gw_revap_38	multiplier	0.850	1.150	HRU 38 groundwater 'revap' coefficient
gw_revap_39	multiplier	0.850	1.150	HRU 39 groundwater 'revap' coefficient
gw_revap_40	multiplier	0.850	1.150	HRU 40 groundwater 'revap' coefficient
gw_revap_41	multiplier	0.850	1.150	HRU 41 groundwater 'revap' coefficient
gw_revap_42	multiplier	0.850	1.150	HRU 42 groundwater 'revap' coefficient
gw_revap_43	multiplier	0.850	1.150	HRU 43 groundwater 'revap' coefficient
gw_revap_44	multiplier	0.850	1.150	HRU 44 groundwater 'revap' coefficient
gw_revap_45	multiplier	0.850	1.150	HRU 45 groundwater 'revap' coefficient
gw_revap_46	multiplier	0.850	1.150	HRU 46 groundwater 'revap' coefficient
gw_revap_47	multiplier	0.850	1.150	HRU 47 groundwater 'revap' coefficient
gw_revap_v	value	0.020	0.400	subbasin groundwater 'revap' coefficient
gwqmn_01	multiplier	0.850	1.150	HRU 01 groundwater threshold return flow depth (mm)
gwqmn_02	multiplier	0.850	1.150	HRU 02 groundwater threshold return flow depth (mm)
gwqmn_03	multiplier	0.850	1.150	HRU 03 groundwater threshold return flow depth (mm)
gwqmn_04	multiplier	0.850	1.150	HRU 04 groundwater threshold return flow depth (mm)
gwqmn_05	multiplier	0.850	1.150	HRU 05 groundwater threshold return flow depth (mm)
gwqmn_06	multiplier	0.850	1.150	HRU 06 groundwater threshold return flow depth (mm)
gwqmn_07	multiplier	0.850	1.150	HRU 07 groundwater threshold return flow depth (mm)
gwqmn_08	multiplier	0.850	1.150	HRU 08 groundwater threshold return flow depth (mm)
gwqmn_09	multiplier	0.850	1.150	HRU 09 groundwater threshold return flow depth (mm)
gwqmn_10	multiplier	0.850	1.150	HRU 10 groundwater threshold return flow depth (mm)
gwqmn_11	multiplier	0.850	1.150	HRU 11 groundwater threshold return flow depth (mm)
gwqmn_12	multiplier	0.850	1.150	HRU 12 groundwater threshold return flow depth (mm)
gwqmn_13	multiplier	0.850	1.150	HRU 13 groundwater threshold return flow depth (mm)
gwqmn_14	multiplier	0.850	1.150	HRU 14 groundwater threshold return flow depth (mm)
gwqmn_15	multiplier	0.850	1.150	HRU 15 groundwater threshold return flow depth (mm)
gwqmn_16	multiplier	0.850	1.150	HRU 16 groundwater threshold return flow depth (mm)
gwqmn_17	multiplier	0.850	1.150	HRU 17 groundwater threshold return flow depth (mm)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
gwqmn_18	multiplier	0.850	1.150	HRU 18 groundwater threshold return flow depth (mm)
gwqmn_19	multiplier	0.850	1.150	HRU 19 groundwater threshold return flow depth (mm)
gwqmn_20	multiplier	0.850	1.150	HRU 20 groundwater threshold return flow depth (mm)
gwqmn_21	multiplier	0.850	1.150	HRU 21 groundwater threshold return flow depth (mm)
gwqmn_22	multiplier	0.850	1.150	HRU 22 groundwater threshold return flow depth (mm)
gwqmn_23	multiplier	0.850	1.150	HRU 23 groundwater threshold return flow depth (mm)
gwqmn_24	multiplier	0.850	1.150	HRU 24 groundwater threshold return flow depth (mm)
gwqmn_25	multiplier	0.850	1.150	HRU 25 groundwater threshold return flow depth (mm)
gwqmn_26	multiplier	0.850	1.150	HRU 26 groundwater threshold return flow depth (mm)
gwqmn_27	multiplier	0.850	1.150	HRU 27 groundwater threshold return flow depth (mm)
gwqmn_28	multiplier	0.850	1.150	HRU 28 groundwater threshold return flow depth (mm)
gwqmn_29	multiplier	0.850	1.150	HRU 29 groundwater threshold return flow depth (mm)
gwqmn_30	multiplier	0.850	1.150	HRU 30 groundwater threshold return flow depth (mm)
gwqmn_31	multiplier	0.850	1.150	HRU 31 groundwater threshold return flow depth (mm)
gwqmn_32	multiplier	0.850	1.150	HRU 32 groundwater threshold return flow depth (mm)
gwqmn_33	multiplier	0.850	1.150	HRU 33 groundwater threshold return flow depth (mm)
gwqmn_34	multiplier	0.850	1.150	HRU 34 groundwater threshold return flow depth (mm)
gwqmn_35	multiplier	0.850	1.150	HRU 35 groundwater threshold return flow depth (mm)
gwqmn_36	multiplier	0.850	1.150	HRU 36 groundwater threshold return flow depth (mm)
gwqmn_37	multiplier	0.850	1.150	HRU 37 groundwater threshold return flow depth (mm)
gwqmn_38	multiplier	0.850	1.150	HRU 38 groundwater threshold return flow depth (mm)
gwqmn_39	multiplier	0.850	1.150	HRU 39 groundwater threshold return flow depth (mm)
gwqmn_40	multiplier	0.850	1.150	HRU 40 groundwater threshold return flow depth (mm)
gwqmn_41	multiplier	0.850	1.150	HRU 41 groundwater threshold return flow depth (mm)
gwqmn_42	multiplier	0.850	1.150	HRU 42 groundwater threshold return flow depth (mm)
gwqmn_43	multiplier	0.850	1.150	HRU 43 groundwater threshold return flow depth (mm)
gwqmn_44	multiplier	0.850	1.150	HRU 44 groundwater threshold return flow depth (mm)
gwqmn_45	multiplier	0.850	1.150	HRU 45 groundwater threshold return flow depth (mm)
gwqmn_46	multiplier	0.850	1.150	HRU 46 groundwater threshold return flow depth (mm)
gwqmn_47	multiplier	0.850	1.150	HRU 47 groundwater threshold return flow depth (mm)
gwqmn_v	value	500.000	4000.000	subbasin groundwater threshold return flow depth (mm)
hru_slp_01	multiplier	0.850	1.150	HRU 01 average slope steepness (m/m)
hru_slp_02	multiplier	0.850	1.150	HRU 02 average slope steepness (m/m)
hru_slp_03	multiplier	0.850	1.150	HRU 03 average slope steepness (m/m)
hru_slp_04	multiplier	0.850	1.150	HRU 04 average slope steepness (m/m)
hru_slp_05	multiplier	0.850	1.150	HRU 05 average slope steepness (m/m)
hru_slp_06	multiplier	0.850	1.150	HRU 06 average slope steepness (m/m)
hru_slp_07	multiplier	0.850	1.150	HRU 07 average slope steepness (m/m)
hru_slp_08	multiplier	0.850	1.150	HRU 08 average slope steepness (m/m)
hru_slp_09	multiplier	0.850	1.150	HRU 09 average slope steepness (m/m)
hru_slp_10	multiplier	0.850	1.150	HRU 10 average slope steepness (m/m)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
hru_slp_11	multiplier	0.850	1.150	HRU 11 average slope steepness (m/m)
hru_slp_12	multiplier	0.850	1.150	HRU 12 average slope steepness (m/m)
hru_slp_13	multiplier	0.850	1.150	HRU 13 average slope steepness (m/m)
hru_slp_14	multiplier	0.850	1.150	HRU 14 average slope steepness (m/m)
hru_slp_15	multiplier	0.850	1.150	HRU 15 average slope steepness (m/m)
hru_slp_16	multiplier	0.850	1.150	HRU 16 average slope steepness (m/m)
hru_slp_17	multiplier	0.850	1.150	HRU 17 average slope steepness (m/m)
hru_slp_18	multiplier	0.850	1.150	HRU 18 average slope steepness (m/m)
hru_slp_19	multiplier	0.850	1.150	HRU 19 average slope steepness (m/m)
hru_slp_20	multiplier	0.850	1.150	HRU 20 average slope steepness (m/m)
hru_slp_21	multiplier	0.850	1.150	HRU 21 average slope steepness (m/m)
hru_slp_22	multiplier	0.850	1.150	HRU 22 average slope steepness (m/m)
hru_slp_23	multiplier	0.850	1.150	HRU 23 average slope steepness (m/m)
hru_slp_24	multiplier	0.850	1.150	HRU 24 average slope steepness (m/m)
hru_slp_25	multiplier	0.850	1.150	HRU 25 average slope steepness (m/m)
hru_slp_26	multiplier	0.850	1.150	HRU 26 average slope steepness (m/m)
hru_slp_27	multiplier	0.850	1.150	HRU 27 average slope steepness (m/m)
hru_slp_28	multiplier	0.850	1.150	HRU 28 average slope steepness (m/m)
hru_slp_29	multiplier	0.850	1.150	HRU 29 average slope steepness (m/m)
hru_slp_30	multiplier	0.850	1.150	HRU 30 average slope steepness (m/m)
hru_slp_31	multiplier	0.850	1.150	HRU 31 average slope steepness (m/m)
hru_slp_32	multiplier	0.850	1.150	HRU 32 average slope steepness (m/m)
hru_slp_33	multiplier	0.850	1.150	HRU 33 average slope steepness (m/m)
hru_slp_34	multiplier	0.850	1.150	HRU 34 average slope steepness (m/m)
hru_slp_35	multiplier	0.850	1.150	HRU 35 average slope steepness (m/m)
hru_slp_36	multiplier	0.850	1.150	HRU 36 average slope steepness (m/m)
hru_slp_37	multiplier	0.850	1.150	HRU 37 average slope steepness (m/m)
hru_slp_38	multiplier	0.850	1.150	HRU 38 average slope steepness (m/m)
hru_slp_39	multiplier	0.850	1.150	HRU 39 average slope steepness (m/m)
hru_slp_40	multiplier	0.850	1.150	HRU 40 average slope steepness (m/m)
hru_slp_41	multiplier	0.850	1.150	HRU 41 average slope steepness (m/m)
hru_slp_42	multiplier	0.850	1.150	HRU 42 average slope steepness (m/m)
hru_slp_43	multiplier	0.850	1.150	HRU 43 average slope steepness (m/m)
hru_slp_44	multiplier	0.850	1.150	HRU 44 average slope steepness (m/m)
hru_slp_45	multiplier	0.850	1.150	HRU 45 average slope steepness (m/m)
hru_slp_46	multiplier	0.850	1.150	HRU 46 average slope steepness (m/m)
hru_slp_47	multiplier	0.850	1.150	HRU 47 average slope steepness (m/m)
hru_slp_r	multiplier	0.500	1.500	subbasin average slope steepness (m/m)
ov_n_01	multiplier	0.850	1.150	HRU 01 overland flow Manning's 'n'
ov_n_02	multiplier	0.850	1.150	HRU 02 overland flow Manning's 'n'
ov_n_03	multiplier	0.850	1.150	HRU 03 overland flow Manning's 'n'

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
ov_n_04	multiplier	0.850	1.150	HRU 04 overland flow Manning's 'n'
ov_n_05	multiplier	0.850	1.150	HRU 05 overland flow Manning's 'n'
ov_n_06	multiplier	0.850	1.150	HRU 06 overland flow Manning's 'n'
ov_n_07	multiplier	0.850	1.150	HRU 07 overland flow Manning's 'n'
ov_n_08	multiplier	0.850	1.150	HRU 08 overland flow Manning's 'n'
ov_n_09	multiplier	0.850	1.150	HRU 09 overland flow Manning's 'n'
ov_n_10	multiplier	0.850	1.150	HRU 10 overland flow Manning's 'n'
ov_n_11	multiplier	0.850	1.150	HRU 11 overland flow Manning's 'n'
ov_n_12	multiplier	0.850	1.150	HRU 12 overland flow Manning's 'n'
ov_n_13	multiplier	0.850	1.150	HRU 13 overland flow Manning's 'n'
ov_n_14	multiplier	0.850	1.150	HRU 14 overland flow Manning's 'n'
ov_n_15	multiplier	0.850	1.150	HRU 15 overland flow Manning's 'n'
ov_n_16	multiplier	0.850	1.150	HRU 16 overland flow Manning's 'n'
ov_n_17	multiplier	0.850	1.150	HRU 17 overland flow Manning's 'n'
ov_n_18	multiplier	0.850	1.150	HRU 18 overland flow Manning's 'n'
ov_n_19	multiplier	0.850	1.150	HRU 19 overland flow Manning's 'n'
ov_n_20	multiplier	0.850	1.150	HRU 20 overland flow Manning's 'n'
ov_n_21	multiplier	0.850	1.150	HRU 21 overland flow Manning's 'n'
ov_n_22	multiplier	0.850	1.150	HRU 22 overland flow Manning's 'n'
ov_n_23	multiplier	0.850	1.150	HRU 23 overland flow Manning's 'n'
ov_n_24	multiplier	0.850	1.150	HRU 24 overland flow Manning's 'n'
ov_n_25	multiplier	0.850	1.150	HRU 25 overland flow Manning's 'n'
ov_n_26	multiplier	0.850	1.150	HRU 26 overland flow Manning's 'n'
ov_n_27	multiplier	0.850	1.150	HRU 27 overland flow Manning's 'n'
ov_n_28	multiplier	0.850	1.150	HRU 28 overland flow Manning's 'n'
ov_n_29	multiplier	0.850	1.150	HRU 29 overland flow Manning's 'n'
ov_n_30	multiplier	0.850	1.150	HRU 30 overland flow Manning's 'n'
ov_n_31	multiplier	0.850	1.150	HRU 31 overland flow Manning's 'n'
ov_n_32	multiplier	0.850	1.150	HRU 32 overland flow Manning's 'n'
ov_n_33	multiplier	0.850	1.150	HRU 33 overland flow Manning's 'n'
ov_n_34	multiplier	0.850	1.150	HRU 34 overland flow Manning's 'n'
ov_n_35	multiplier	0.850	1.150	HRU 35 overland flow Manning's 'n'
ov_n_36	multiplier	0.850	1.150	HRU 36 overland flow Manning's 'n'
ov_n_37	multiplier	0.850	1.150	HRU 37 overland flow Manning's 'n'
ov_n_38	multiplier	0.850	1.150	HRU 38 overland flow Manning's 'n'
ov_n_39	multiplier	0.850	1.150	HRU 39 overland flow Manning's 'n'
ov_n_40	multiplier	0.850	1.150	HRU 40 overland flow Manning's 'n'
ov_n_41	multiplier	0.850	1.150	HRU 41 overland flow Manning's 'n'
ov_n_42	multiplier	0.850	1.150	HRU 42 overland flow Manning's 'n'
ov_n_43	multiplier	0.850	1.150	HRU 43 overland flow Manning's 'n'
ov_n_44	multiplier	0.850	1.150	HRU 44 overland flow Manning's 'n'

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
ov_n_45	multiplier	0.850	1.150	HRU 45 overland flow Manning's 'n'
ov_n_46	multiplier	0.850	1.150	HRU 46 overland flow Manning's 'n'
ov_n_47	multiplier	0.850	1.150	HRU 47 overland flow Manning's 'n'
ov_n_r	multiplier	0.500	1.500	subbasin overland flow Manning's 'n'
pcp_0_2001	multiplier	0.800	1.200	subbasin 2001 0th to 25th quantile precip
pcp_0_2002	multiplier	0.800	1.200	subbasin 2002 0th to 25th quantile precip
pcp_0_2003	multiplier	0.800	1.200	subbasin 2003 0th to 25th quantile precip
pcp_0_2004	multiplier	0.800	1.200	subbasin 2004 0th to 25th quantile precip
pcp_0_2005	multiplier	0.800	1.200	subbasin 2005 0th to 25th quantile precip
pcp_0_2006	multiplier	0.800	1.200	subbasin 2006 0th to 25th quantile precip
pcp_0_2007	multiplier	0.800	1.200	subbasin 2007 0th to 25th quantile precip
pcp_0_2008	multiplier	0.800	1.200	subbasin 2008 0th to 25th quantile precip
pcp_0_2009	multiplier	0.800	1.200	subbasin 2009 0th to 25th quantile precip
pcp_0_2010	multiplier	0.800	1.200	subbasin 2010 0th to 25th quantile precip
pcp_1_2001	multiplier	0.800	1.200	subbasin 2001 25th to 50th quantile precip
pcp_1_2002	multiplier	0.800	1.200	subbasin 2002 25th to 50th quantile precip
pcp_1_2003	multiplier	0.800	1.200	subbasin 2003 25th to 50th quantile precip
pcp_1_2004	multiplier	0.800	1.200	subbasin 2004 25th to 50th quantile precip
pcp_1_2005	multiplier	0.800	1.200	subbasin 2005 25th to 50th quantile precip
pcp_1_2006	multiplier	0.800	1.200	subbasin 2006 25th to 50th quantile precip
pcp_1_2007	multiplier	0.800	1.200	subbasin 2007 25th to 50th quantile precip
pcp_1_2008	multiplier	0.800	1.200	subbasin 2008 25th to 50th quantile precip
pcp_1_2009	multiplier	0.800	1.200	subbasin 2009 25th to 50th quantile precip
pcp_1_2010	multiplier	0.800	1.200	subbasin 2010 25th to 50th quantile precip
pcp_2_2001	multiplier	0.800	1.200	subbasin 2001 50th to 75th quantile precip
pcp_2_2002	multiplier	0.800	1.200	subbasin 2002 50th to 75th quantile precip
pcp_2_2003	multiplier	0.800	1.200	subbasin 2003 50th to 75th quantile precip
pcp_2_2004	multiplier	0.800	1.200	subbasin 2004 50th to 75th quantile precip
pcp_2_2005	multiplier	0.800	1.200	subbasin 2005 50th to 75th quantile precip
pcp_2_2006	multiplier	0.800	1.200	subbasin 2006 50th to 75th quantile precip
pcp_2_2007	multiplier	0.800	1.200	subbasin 2007 50th to 75th quantile precip
pcp_2_2008	multiplier	0.800	1.200	subbasin 2008 50th to 75th quantile precip
pcp_2_2009	multiplier	0.800	1.200	subbasin 2009 50th to 75th quantile precip
pcp_2_2010	multiplier	0.800	1.200	subbasin 2010 50th to 75th quantile precip
pcp_3_2001	multiplier	0.800	1.200	subbasin 2001 75th to 100th quantile precip
pcp_3_2002	multiplier	0.800	1.200	subbasin 2002 75th to 100th quantile precip
pcp_3_2003	multiplier	0.800	1.200	subbasin 2003 75th to 100th quantile precip
pcp_3_2004	multiplier	0.800	1.200	subbasin 2004 75th to 100th quantile precip
pcp_3_2005	multiplier	0.800	1.200	subbasin 2005 75th to 100th quantile precip
pcp_3_2006	multiplier	0.800	1.200	subbasin 2006 75th to 100th quantile precip
pcp_3_2007	multiplier	0.800	1.200	subbasin 2007 75th to 100th quantile precip

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
pcp_3_2008	multiplier	0.800	1.200	subbasin 2008 75th to 100th quantile precip
pcp_3_2009	multiplier	0.800	1.200	subbasin 2009 75th to 100th quantile precip
pcp_3_2010	multiplier	0.800	1.200	subbasin 2010 75th to 100th quantile precip
rchrg_dp_01	multiplier	0.850	1.150	HRU 01 deep aquifer percolation factor
rchrg_dp_02	multiplier	0.850	1.150	HRU 02 deep aquifer percolation factor
rchrg_dp_03	multiplier	0.850	1.150	HRU 03 deep aquifer percolation factor
rchrg_dp_04	multiplier	0.850	1.150	HRU 04 deep aquifer percolation factor
rchrg_dp_05	multiplier	0.850	1.150	HRU 05 deep aquifer percolation factor
rchrg_dp_06	multiplier	0.850	1.150	HRU 06 deep aquifer percolation factor
rchrg_dp_07	multiplier	0.850	1.150	HRU 07 deep aquifer percolation factor
rchrg_dp_08	multiplier	0.850	1.150	HRU 08 deep aquifer percolation factor
rchrg_dp_09	multiplier	0.850	1.150	HRU 09 deep aquifer percolation factor
rchrg_dp_10	multiplier	0.850	1.150	HRU 10 deep aquifer percolation factor
rchrg_dp_11	multiplier	0.850	1.150	HRU 11 deep aquifer percolation factor
rchrg_dp_12	multiplier	0.850	1.150	HRU 12 deep aquifer percolation factor
rchrg_dp_13	multiplier	0.850	1.150	HRU 13 deep aquifer percolation factor
rchrg_dp_14	multiplier	0.850	1.150	HRU 14 deep aquifer percolation factor
rchrg_dp_15	multiplier	0.850	1.150	HRU 15 deep aquifer percolation factor
rchrg_dp_16	multiplier	0.850	1.150	HRU 16 deep aquifer percolation factor
rchrg_dp_17	multiplier	0.850	1.150	HRU 17 deep aquifer percolation factor
rchrg_dp_18	multiplier	0.850	1.150	HRU 18 deep aquifer percolation factor
rchrg_dp_19	multiplier	0.850	1.150	HRU 19 deep aquifer percolation factor
rchrg_dp_20	multiplier	0.850	1.150	HRU 20 deep aquifer percolation factor
rchrg_dp_21	multiplier	0.850	1.150	HRU 21 deep aquifer percolation factor
rchrg_dp_22	multiplier	0.850	1.150	HRU 22 deep aquifer percolation factor
rchrg_dp_23	multiplier	0.850	1.150	HRU 23 deep aquifer percolation factor
rchrg_dp_24	multiplier	0.850	1.150	HRU 24 deep aquifer percolation factor
rchrg_dp_25	multiplier	0.850	1.150	HRU 25 deep aquifer percolation factor
rchrg_dp_26	multiplier	0.850	1.150	HRU 26 deep aquifer percolation factor
rchrg_dp_27	multiplier	0.850	1.150	HRU 27 deep aquifer percolation factor
rchrg_dp_28	multiplier	0.850	1.150	HRU 28 deep aquifer percolation factor
rchrg_dp_29	multiplier	0.850	1.150	HRU 29 deep aquifer percolation factor
rchrg_dp_30	multiplier	0.850	1.150	HRU 30 deep aquifer percolation factor
rchrg_dp_31	multiplier	0.850	1.150	HRU 31 deep aquifer percolation factor
rchrg_dp_32	multiplier	0.850	1.150	HRU 32 deep aquifer percolation factor
rchrg_dp_33	multiplier	0.850	1.150	HRU 33 deep aquifer percolation factor
rchrg_dp_34	multiplier	0.850	1.150	HRU 34 deep aquifer percolation factor
rchrg_dp_35	multiplier	0.850	1.150	HRU 35 deep aquifer percolation factor
rchrg_dp_36	multiplier	0.850	1.150	HRU 36 deep aquifer percolation factor
rchrg_dp_37	multiplier	0.850	1.150	HRU 37 deep aquifer percolation factor
rchrg_dp_38	multiplier	0.850	1.150	HRU 38 deep aquifer percolation factor

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
rchrg_dp_39	multiplier	0.850	1.150	HRU 39 deep aquifer percolation factor
rchrg_dp_40	multiplier	0.850	1.150	HRU 40 deep aquifer percolation factor
rchrg_dp_41	multiplier	0.850	1.150	HRU 41 deep aquifer percolation factor
rchrg_dp_42	multiplier	0.850	1.150	HRU 42 deep aquifer percolation factor
rchrg_dp_43	multiplier	0.850	1.150	HRU 43 deep aquifer percolation factor
rchrg_dp_44	multiplier	0.850	1.150	HRU 44 deep aquifer percolation factor
rchrg_dp_45	multiplier	0.850	1.150	HRU 45 deep aquifer percolation factor
rchrg_dp_46	multiplier	0.850	1.150	HRU 46 deep aquifer percolation factor
rchrg_dp_47	multiplier	0.850	1.150	HRU 47 deep aquifer percolation factor
rchrg_dp_v	value	0.250	0.750	subbasin deep aquifer percolation factor
revapmn_01	multiplier	0.850	1.150	HRU 01 groundwater threshold 'revap' depth (mm)
revapmn_02	multiplier	0.850	1.150	HRU 02 groundwater threshold 'revap' depth (mm)
revapmn_03	multiplier	0.850	1.150	HRU 03 groundwater threshold 'revap' depth (mm)
revapmn_04	multiplier	0.850	1.150	HRU 04 groundwater threshold 'revap' depth (mm)
revapmn_05	multiplier	0.850	1.150	HRU 05 groundwater threshold 'revap' depth (mm)
revapmn_06	multiplier	0.850	1.150	HRU 06 groundwater threshold 'revap' depth (mm)
revapmn_07	multiplier	0.850	1.150	HRU 07 groundwater threshold 'revap' depth (mm)
revapmn_08	multiplier	0.850	1.150	HRU 08 groundwater threshold 'revap' depth (mm)
revapmn_09	multiplier	0.850	1.150	HRU 09 groundwater threshold 'revap' depth (mm)
revapmn_10	multiplier	0.850	1.150	HRU 10 groundwater threshold 'revap' depth (mm)
revapmn_11	multiplier	0.850	1.150	HRU 11 groundwater threshold 'revap' depth (mm)
revapmn_12	multiplier	0.850	1.150	HRU 12 groundwater threshold 'revap' depth (mm)
revapmn_13	multiplier	0.850	1.150	HRU 13 groundwater threshold 'revap' depth (mm)
revapmn_14	multiplier	0.850	1.150	HRU 14 groundwater threshold 'revap' depth (mm)
revapmn_15	multiplier	0.850	1.150	HRU 15 groundwater threshold 'revap' depth (mm)
revapmn_16	multiplier	0.850	1.150	HRU 16 groundwater threshold 'revap' depth (mm)
revapmn_17	multiplier	0.850	1.150	HRU 17 groundwater threshold 'revap' depth (mm)
revapmn_18	multiplier	0.850	1.150	HRU 18 groundwater threshold 'revap' depth (mm)
revapmn_19	multiplier	0.850	1.150	HRU 19 groundwater threshold 'revap' depth (mm)
revapmn_20	multiplier	0.850	1.150	HRU 20 groundwater threshold 'revap' depth (mm)
revapmn_21	multiplier	0.850	1.150	HRU 21 groundwater threshold 'revap' depth (mm)
revapmn_22	multiplier	0.850	1.150	HRU 22 groundwater threshold 'revap' depth (mm)
revapmn_23	multiplier	0.850	1.150	HRU 23 groundwater threshold 'revap' depth (mm)
revapmn_24	multiplier	0.850	1.150	HRU 24 groundwater threshold 'revap' depth (mm)
revapmn_25	multiplier	0.850	1.150	HRU 25 groundwater threshold 'revap' depth (mm)
revapmn_26	multiplier	0.850	1.150	HRU 26 groundwater threshold 'revap' depth (mm)
revapmn_27	multiplier	0.850	1.150	HRU 27 groundwater threshold 'revap' depth (mm)
revapmn_28	multiplier	0.850	1.150	HRU 28 groundwater threshold 'revap' depth (mm)
revapmn_29	multiplier	0.850	1.150	HRU 29 groundwater threshold 'revap' depth (mm)
revapmn_30	multiplier	0.850	1.150	HRU 30 groundwater threshold 'revap' depth (mm)
revapmn_31	multiplier	0.850	1.150	HRU 31 groundwater threshold 'revap' depth (mm)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
revapmn_32	multiplier	0.850	1.150	HRU 32 groundwater threshold 'revap' depth (mm)
revapmn_33	multiplier	0.850	1.150	HRU 33 groundwater threshold 'revap' depth (mm)
revapmn_34	multiplier	0.850	1.150	HRU 34 groundwater threshold 'revap' depth (mm)
revapmn_35	multiplier	0.850	1.150	HRU 35 groundwater threshold 'revap' depth (mm)
revapmn_36	multiplier	0.850	1.150	HRU 36 groundwater threshold 'revap' depth (mm)
revapmn_37	multiplier	0.850	1.150	HRU 37 groundwater threshold 'revap' depth (mm)
revapmn_38	multiplier	0.850	1.150	HRU 38 groundwater threshold 'revap' depth (mm)
revapmn_39	multiplier	0.850	1.150	HRU 39 groundwater threshold 'revap' depth (mm)
revapmn_40	multiplier	0.850	1.150	HRU 40 groundwater threshold 'revap' depth (mm)
revapmn_41	multiplier	0.850	1.150	HRU 41 groundwater threshold 'revap' depth (mm)
revapmn_42	multiplier	0.850	1.150	HRU 42 groundwater threshold 'revap' depth (mm)
revapmn_43	multiplier	0.850	1.150	HRU 43 groundwater threshold 'revap' depth (mm)
revapmn_44	multiplier	0.850	1.150	HRU 44 groundwater threshold 'revap' depth (mm)
revapmn_45	multiplier	0.850	1.150	HRU 45 groundwater threshold 'revap' depth (mm)
revapmn_46	multiplier	0.850	1.150	HRU 46 groundwater threshold 'revap' depth (mm)
revapmn_47	multiplier	0.850	1.150	HRU 47 groundwater threshold 'revap' depth (mm)
revapmn_v	value	100.000	1000.000	subbasin groundwater threshold 'revap' depth (mm)
slsubbsn_01	multiplier	0.850	1.150	HRU 01 average slope length (m)
slsubbsn_02	multiplier	0.850	1.150	HRU 02 average slope length (m)
slsubbsn_03	multiplier	0.850	1.150	HRU 03 average slope length (m)
slsubbsn_04	multiplier	0.850	1.150	HRU 04 average slope length (m)
slsubbsn_05	multiplier	0.850	1.150	HRU 05 average slope length (m)
slsubbsn_06	multiplier	0.850	1.150	HRU 06 average slope length (m)
slsubbsn_07	multiplier	0.850	1.150	HRU 07 average slope length (m)
slsubbsn_08	multiplier	0.850	1.150	HRU 08 average slope length (m)
slsubbsn_09	multiplier	0.850	1.150	HRU 09 average slope length (m)
slsubbsn_10	multiplier	0.850	1.150	HRU 10 average slope length (m)
slsubbsn_11	multiplier	0.850	1.150	HRU 11 average slope length (m)
slsubbsn_12	multiplier	0.850	1.150	HRU 12 average slope length (m)
slsubbsn_13	multiplier	0.850	1.150	HRU 13 average slope length (m)
slsubbsn_14	multiplier	0.850	1.150	HRU 14 average slope length (m)
slsubbsn_15	multiplier	0.850	1.150	HRU 15 average slope length (m)
slsubbsn_16	multiplier	0.850	1.150	HRU 16 average slope length (m)
slsubbsn_17	multiplier	0.850	1.150	HRU 17 average slope length (m)
slsubbsn_18	multiplier	0.850	1.150	HRU 18 average slope length (m)
slsubbsn_19	multiplier	0.850	1.150	HRU 19 average slope length (m)
slsubbsn_20	multiplier	0.850	1.150	HRU 20 average slope length (m)
slsubbsn_21	multiplier	0.850	1.150	HRU 21 average slope length (m)
slsubbsn_22	multiplier	0.850	1.150	HRU 22 average slope length (m)
slsubbsn_23	multiplier	0.850	1.150	HRU 23 average slope length (m)
slsubbsn_24	multiplier	0.850	1.150	HRU 24 average slope length (m)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
slsubbsn_25	multiplier	0.850	1.150	HRU 25 average slope length (m)
slsubbsn_26	multiplier	0.850	1.150	HRU 26 average slope length (m)
slsubbsn_27	multiplier	0.850	1.150	HRU 27 average slope length (m)
slsubbsn_28	multiplier	0.850	1.150	HRU 28 average slope length (m)
slsubbsn_29	multiplier	0.850	1.150	HRU 29 average slope length (m)
slsubbsn_30	multiplier	0.850	1.150	HRU 30 average slope length (m)
slsubbsn_31	multiplier	0.850	1.150	HRU 31 average slope length (m)
slsubbsn_32	multiplier	0.850	1.150	HRU 32 average slope length (m)
slsubbsn_33	multiplier	0.850	1.150	HRU 33 average slope length (m)
slsubbsn_34	multiplier	0.850	1.150	HRU 34 average slope length (m)
slsubbsn_35	multiplier	0.850	1.150	HRU 35 average slope length (m)
slsubbsn_36	multiplier	0.850	1.150	HRU 36 average slope length (m)
slsubbsn_37	multiplier	0.850	1.150	HRU 37 average slope length (m)
slsubbsn_38	multiplier	0.850	1.150	HRU 38 average slope length (m)
slsubbsn_39	multiplier	0.850	1.150	HRU 39 average slope length (m)
slsubbsn_40	multiplier	0.850	1.150	HRU 40 average slope length (m)
slsubbsn_41	multiplier	0.850	1.150	HRU 41 average slope length (m)
slsubbsn_42	multiplier	0.850	1.150	HRU 42 average slope length (m)
slsubbsn_43	multiplier	0.850	1.150	HRU 43 average slope length (m)
slsubbsn_44	multiplier	0.850	1.150	HRU 44 average slope length (m)
slsubbsn_45	multiplier	0.850	1.150	HRU 45 average slope length (m)
slsubbsn_46	multiplier	0.850	1.150	HRU 46 average slope length (m)
slsubbsn_47	multiplier	0.850	1.150	HRU 47 average slope length (m)
slsubbsn_r	multiplier	0.500	1.500	subbasin average slope length (m)
sol_alb_1_01	multiplier	0.850	1.150	HRU 01 soil layer 1 moist albedo
sol_alb_1_02	multiplier	0.850	1.150	HRU 02 soil layer 1 moist albedo
sol_alb_1_03	multiplier	0.850	1.150	HRU 03 soil layer 1 moist albedo
sol_alb_1_04	multiplier	0.850	1.150	HRU 04 soil layer 1 moist albedo
sol_alb_1_05	multiplier	0.850	1.150	HRU 05 soil layer 1 moist albedo
sol_alb_1_06	multiplier	0.850	1.150	HRU 06 soil layer 1 moist albedo
sol_alb_1_07	multiplier	0.850	1.150	HRU 07 soil layer 1 moist albedo
sol_alb_1_08	multiplier	0.850	1.150	HRU 08 soil layer 1 moist albedo
sol_alb_1_09	multiplier	0.850	1.150	HRU 09 soil layer 1 moist albedo
sol_alb_1_10	multiplier	0.850	1.150	HRU 10 soil layer 1 moist albedo
sol_alb_1_11	multiplier	0.850	1.150	HRU 11 soil layer 1 moist albedo
sol_alb_1_12	multiplier	0.850	1.150	HRU 12 soil layer 1 moist albedo
sol_alb_1_13	multiplier	0.850	1.150	HRU 13 soil layer 1 moist albedo
sol_alb_1_14	multiplier	0.850	1.150	HRU 14 soil layer 1 moist albedo
sol_alb_1_15	multiplier	0.850	1.150	HRU 15 soil layer 1 moist albedo
sol_alb_1_16	multiplier	0.850	1.150	HRU 16 soil layer 1 moist albedo
sol_alb_1_17	multiplier	0.850	1.150	HRU 17 soil layer 1 moist albedo

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_alb_1_18	multiplier	0.850	1.150	HRU 18 soil layer 1 moist albedo
sol_alb_1_19	multiplier	0.850	1.150	HRU 19 soil layer 1 moist albedo
sol_alb_1_20	multiplier	0.850	1.150	HRU 20 soil layer 1 moist albedo
sol_alb_1_21	multiplier	0.850	1.150	HRU 21 soil layer 1 moist albedo
sol_alb_1_22	multiplier	0.850	1.150	HRU 22 soil layer 1 moist albedo
sol_alb_1_23	multiplier	0.850	1.150	HRU 23 soil layer 1 moist albedo
sol_alb_1_24	multiplier	0.850	1.150	HRU 24 soil layer 1 moist albedo
sol_alb_1_25	multiplier	0.850	1.150	HRU 25 soil layer 1 moist albedo
sol_alb_1_26	multiplier	0.850	1.150	HRU 26 soil layer 1 moist albedo
sol_alb_1_27	multiplier	0.850	1.150	HRU 27 soil layer 1 moist albedo
sol_alb_1_28	multiplier	0.850	1.150	HRU 28 soil layer 1 moist albedo
sol_alb_1_29	multiplier	0.850	1.150	HRU 29 soil layer 1 moist albedo
sol_alb_1_30	multiplier	0.850	1.150	HRU 30 soil layer 1 moist albedo
sol_alb_1_31	multiplier	0.850	1.150	HRU 31 soil layer 1 moist albedo
sol_alb_1_32	multiplier	0.850	1.150	HRU 32 soil layer 1 moist albedo
sol_alb_1_33	multiplier	0.850	1.150	HRU 33 soil layer 1 moist albedo
sol_alb_1_34	multiplier	0.850	1.150	HRU 34 soil layer 1 moist albedo
sol_alb_1_35	multiplier	0.850	1.150	HRU 35 soil layer 1 moist albedo
sol_alb_1_36	multiplier	0.850	1.150	HRU 36 soil layer 1 moist albedo
sol_alb_1_37	multiplier	0.850	1.150	HRU 37 soil layer 1 moist albedo
sol_alb_1_38	multiplier	0.850	1.150	HRU 38 soil layer 1 moist albedo
sol_alb_1_39	multiplier	0.850	1.150	HRU 39 soil layer 1 moist albedo
sol_alb_1_40	multiplier	0.850	1.150	HRU 40 soil layer 1 moist albedo
sol_alb_1_41	multiplier	0.850	1.150	HRU 41 soil layer 1 moist albedo
sol_alb_1_42	multiplier	0.850	1.150	HRU 42 soil layer 1 moist albedo
sol_alb_1_43	multiplier	0.850	1.150	HRU 43 soil layer 1 moist albedo
sol_alb_1_44	multiplier	0.850	1.150	HRU 44 soil layer 1 moist albedo
sol_alb_1_45	multiplier	0.850	1.150	HRU 45 soil layer 1 moist albedo
sol_alb_1_46	multiplier	0.850	1.150	HRU 46 soil layer 1 moist albedo
sol_alb_1_47	multiplier	0.850	1.150	HRU 47 soil layer 1 moist albedo
sol_alb_1_r	multiplier	1.000	5.000	subbasin soil layer 1 moist albedo
sol_alb_2_01	multiplier	0.850	1.150	HRU 01 soil layer 2 moist albedo
sol_alb_2_02	multiplier	0.850	1.150	HRU 02 soil layer 2 moist albedo
sol_alb_2_03	multiplier	0.850	1.150	HRU 03 soil layer 2 moist albedo
sol_alb_2_04	multiplier	0.850	1.150	HRU 04 soil layer 2 moist albedo
sol_alb_2_05	multiplier	0.850	1.150	HRU 05 soil layer 2 moist albedo
sol_alb_2_06	multiplier	0.850	1.150	HRU 06 soil layer 2 moist albedo
sol_alb_2_07	multiplier	0.850	1.150	HRU 07 soil layer 2 moist albedo
sol_alb_2_08	multiplier	0.850	1.150	HRU 08 soil layer 2 moist albedo
sol_alb_2_09	multiplier	0.850	1.150	HRU 09 soil layer 2 moist albedo
sol_alb_2_10	multiplier	0.850	1.150	HRU 10 soil layer 2 moist albedo

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_alb_2_11	multiplier	0.850	1.150	HRU 11 soil layer 2 moist albedo
sol_alb_2_12	multiplier	0.850	1.150	HRU 12 soil layer 2 moist albedo
sol_alb_2_13	multiplier	0.850	1.150	HRU 13 soil layer 2 moist albedo
sol_alb_2_14	multiplier	0.850	1.150	HRU 14 soil layer 2 moist albedo
sol_alb_2_15	multiplier	0.850	1.150	HRU 15 soil layer 2 moist albedo
sol_alb_2_16	multiplier	0.850	1.150	HRU 16 soil layer 2 moist albedo
sol_alb_2_17	multiplier	0.850	1.150	HRU 17 soil layer 2 moist albedo
sol_alb_2_18	multiplier	0.850	1.150	HRU 18 soil layer 2 moist albedo
sol_alb_2_19	multiplier	0.850	1.150	HRU 19 soil layer 2 moist albedo
sol_alb_2_20	multiplier	0.850	1.150	HRU 20 soil layer 2 moist albedo
sol_alb_2_21	multiplier	0.850	1.150	HRU 21 soil layer 2 moist albedo
sol_alb_2_22	multiplier	0.850	1.150	HRU 22 soil layer 2 moist albedo
sol_alb_2_23	multiplier	0.850	1.150	HRU 23 soil layer 2 moist albedo
sol_alb_2_24	multiplier	0.850	1.150	HRU 24 soil layer 2 moist albedo
sol_alb_2_25	multiplier	0.850	1.150	HRU 25 soil layer 2 moist albedo
sol_alb_2_26	multiplier	0.850	1.150	HRU 26 soil layer 2 moist albedo
sol_alb_2_27	multiplier	0.850	1.150	HRU 27 soil layer 2 moist albedo
sol_alb_2_28	multiplier	0.850	1.150	HRU 28 soil layer 2 moist albedo
sol_alb_2_29	multiplier	0.850	1.150	HRU 29 soil layer 2 moist albedo
sol_alb_2_30	multiplier	0.850	1.150	HRU 30 soil layer 2 moist albedo
sol_alb_2_31	multiplier	0.850	1.150	HRU 31 soil layer 2 moist albedo
sol_alb_2_32	multiplier	0.850	1.150	HRU 32 soil layer 2 moist albedo
sol_alb_2_33	multiplier	0.850	1.150	HRU 33 soil layer 2 moist albedo
sol_alb_2_34	multiplier	0.850	1.150	HRU 34 soil layer 2 moist albedo
sol_alb_2_35	multiplier	0.850	1.150	HRU 35 soil layer 2 moist albedo
sol_alb_2_36	multiplier	0.850	1.150	HRU 36 soil layer 2 moist albedo
sol_alb_2_37	multiplier	0.850	1.150	HRU 37 soil layer 2 moist albedo
sol_alb_2_38	multiplier	0.850	1.150	HRU 38 soil layer 2 moist albedo
sol_alb_2_39	multiplier	0.850	1.150	HRU 39 soil layer 2 moist albedo
sol_alb_2_40	multiplier	0.850	1.150	HRU 40 soil layer 2 moist albedo
sol_alb_2_41	multiplier	0.850	1.150	HRU 41 soil layer 2 moist albedo
sol_alb_2_42	multiplier	0.850	1.150	HRU 42 soil layer 2 moist albedo
sol_alb_2_43	multiplier	0.850	1.150	HRU 43 soil layer 2 moist albedo
sol_alb_2_44	multiplier	0.850	1.150	HRU 44 soil layer 2 moist albedo
sol_alb_2_45	multiplier	0.850	1.150	HRU 45 soil layer 2 moist albedo
sol_alb_2_46	multiplier	0.850	1.150	HRU 46 soil layer 2 moist albedo
sol_alb_2_47	multiplier	0.850	1.150	HRU 47 soil layer 2 moist albedo
sol_alb_2_r	multiplier	1.000	5.000	subbasin soil layer 2 moist albedo
sol_alb_3_01	multiplier	0.850	1.150	HRU 01 soil layer 3 moist albedo
sol_alb_3_02	multiplier	0.850	1.150	HRU 02 soil layer 3 moist albedo
sol_alb_3_03	multiplier	0.850	1.150	HRU 03 soil layer 3 moist albedo

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_alb_3_04	multiplier	0.850	1.150	HRU 04 soil layer 3 moist albedo
sol_alb_3_05	multiplier	0.850	1.150	HRU 05 soil layer 3 moist albedo
sol_alb_3_06	multiplier	0.850	1.150	HRU 06 soil layer 3 moist albedo
sol_alb_3_07	multiplier	0.850	1.150	HRU 07 soil layer 3 moist albedo
sol_alb_3_08	multiplier	0.850	1.150	HRU 08 soil layer 3 moist albedo
sol_alb_3_09	multiplier	0.850	1.150	HRU 09 soil layer 3 moist albedo
sol_alb_3_10	multiplier	0.850	1.150	HRU 10 soil layer 3 moist albedo
sol_alb_3_11	multiplier	0.850	1.150	HRU 11 soil layer 3 moist albedo
sol_alb_3_12	multiplier	0.850	1.150	HRU 12 soil layer 3 moist albedo
sol_alb_3_13	multiplier	0.850	1.150	HRU 13 soil layer 3 moist albedo
sol_alb_3_14	multiplier	0.850	1.150	HRU 14 soil layer 3 moist albedo
sol_alb_3_15	multiplier	0.850	1.150	HRU 15 soil layer 3 moist albedo
sol_alb_3_16	multiplier	0.850	1.150	HRU 16 soil layer 3 moist albedo
sol_alb_3_17	multiplier	0.850	1.150	HRU 17 soil layer 3 moist albedo
sol_alb_3_18	multiplier	0.850	1.150	HRU 18 soil layer 3 moist albedo
sol_alb_3_19	multiplier	0.850	1.150	HRU 19 soil layer 3 moist albedo
sol_alb_3_20	multiplier	0.850	1.150	HRU 20 soil layer 3 moist albedo
sol_alb_3_21	multiplier	0.850	1.150	HRU 21 soil layer 3 moist albedo
sol_alb_3_22	multiplier	0.850	1.150	HRU 22 soil layer 3 moist albedo
sol_alb_3_23	multiplier	0.850	1.150	HRU 23 soil layer 3 moist albedo
sol_alb_3_24	multiplier	0.850	1.150	HRU 24 soil layer 3 moist albedo
sol_alb_3_25	multiplier	0.850	1.150	HRU 25 soil layer 3 moist albedo
sol_alb_3_26	multiplier	0.850	1.150	HRU 26 soil layer 3 moist albedo
sol_alb_3_27	multiplier	0.850	1.150	HRU 27 soil layer 3 moist albedo
sol_alb_3_28	multiplier	0.850	1.150	HRU 28 soil layer 3 moist albedo
sol_alb_3_29	multiplier	0.850	1.150	HRU 29 soil layer 3 moist albedo
sol_alb_3_30	multiplier	0.850	1.150	HRU 30 soil layer 3 moist albedo
sol_alb_3_31	multiplier	0.850	1.150	HRU 31 soil layer 3 moist albedo
sol_alb_3_32	multiplier	0.850	1.150	HRU 32 soil layer 3 moist albedo
sol_alb_3_33	multiplier	0.850	1.150	HRU 33 soil layer 3 moist albedo
sol_alb_3_34	multiplier	0.850	1.150	HRU 34 soil layer 3 moist albedo
sol_alb_3_35	multiplier	0.850	1.150	HRU 35 soil layer 3 moist albedo
sol_alb_3_36	multiplier	0.850	1.150	HRU 36 soil layer 3 moist albedo
sol_alb_3_37	multiplier	0.850	1.150	HRU 37 soil layer 3 moist albedo
sol_alb_3_38	multiplier	0.850	1.150	HRU 38 soil layer 3 moist albedo
sol_alb_3_39	multiplier	0.850	1.150	HRU 39 soil layer 3 moist albedo
sol_alb_3_40	multiplier	0.850	1.150	HRU 40 soil layer 3 moist albedo
sol_alb_3_41	multiplier	0.850	1.150	HRU 41 soil layer 3 moist albedo
sol_alb_3_42	multiplier	0.850	1.150	HRU 42 soil layer 3 moist albedo
sol_alb_3_43	multiplier	0.850	1.150	HRU 43 soil layer 3 moist albedo
sol_alb_3_44	multiplier	0.850	1.150	HRU 44 soil layer 3 moist albedo

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_alb_3_45	multiplier	0.850	1.150	HRU 45 soil layer 3 moist albedo
sol_alb_3_46	multiplier	0.850	1.150	HRU 46 soil layer 3 moist albedo
sol_alb_3_47	multiplier	0.850	1.150	HRU 47 soil layer 3 moist albedo
sol_alb_3_r	multiplier	1.000	5.000	subbasin soil layer 3 moist albedo
sol_awc_1_01	multiplier	0.850	1.150	HRU 01 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_02	multiplier	0.850	1.150	HRU 02 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_03	multiplier	0.850	1.150	HRU 03 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_04	multiplier	0.850	1.150	HRU 04 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_05	multiplier	0.850	1.150	HRU 05 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_06	multiplier	0.850	1.150	HRU 06 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_07	multiplier	0.850	1.150	HRU 07 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_08	multiplier	0.850	1.150	HRU 08 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_09	multiplier	0.850	1.150	HRU 09 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_10	multiplier	0.850	1.150	HRU 10 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_11	multiplier	0.850	1.150	HRU 11 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_12	multiplier	0.850	1.150	HRU 12 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_13	multiplier	0.850	1.150	HRU 13 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_14	multiplier	0.850	1.150	HRU 14 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_15	multiplier	0.850	1.150	HRU 15 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_16	multiplier	0.850	1.150	HRU 16 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_17	multiplier	0.850	1.150	HRU 17 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_18	multiplier	0.850	1.150	HRU 18 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_19	multiplier	0.850	1.150	HRU 19 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_20	multiplier	0.850	1.150	HRU 20 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_21	multiplier	0.850	1.150	HRU 21 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_22	multiplier	0.850	1.150	HRU 22 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_23	multiplier	0.850	1.150	HRU 23 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_24	multiplier	0.850	1.150	HRU 24 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_25	multiplier	0.850	1.150	HRU 25 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_26	multiplier	0.850	1.150	HRU 26 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_27	multiplier	0.850	1.150	HRU 27 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_28	multiplier	0.850	1.150	HRU 28 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_29	multiplier	0.850	1.150	HRU 29 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_30	multiplier	0.850	1.150	HRU 30 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_31	multiplier	0.850	1.150	HRU 31 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_32	multiplier	0.850	1.150	HRU 32 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_33	multiplier	0.850	1.150	HRU 33 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_34	multiplier	0.850	1.150	HRU 34 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_35	multiplier	0.850	1.150	HRU 35 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_36	multiplier	0.850	1.150	HRU 36 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_37	multiplier	0.850	1.150	HRU 37 soil layer 1 available water capacity ($^{mm}/_{mm}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_awc_1_38	multiplier	0.850	1.150	HRU 38 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_39	multiplier	0.850	1.150	HRU 39 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_40	multiplier	0.850	1.150	HRU 40 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_41	multiplier	0.850	1.150	HRU 41 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_42	multiplier	0.850	1.150	HRU 42 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_43	multiplier	0.850	1.150	HRU 43 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_44	multiplier	0.850	1.150	HRU 44 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_45	multiplier	0.850	1.150	HRU 45 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_46	multiplier	0.850	1.150	HRU 46 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_47	multiplier	0.850	1.150	HRU 47 soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_1_r	multiplier	1.000	5.000	subbasin soil layer 1 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_01	multiplier	0.850	1.150	HRU 01 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_02	multiplier	0.850	1.150	HRU 02 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_03	multiplier	0.850	1.150	HRU 03 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_04	multiplier	0.850	1.150	HRU 04 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_05	multiplier	0.850	1.150	HRU 05 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_06	multiplier	0.850	1.150	HRU 06 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_07	multiplier	0.850	1.150	HRU 07 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_08	multiplier	0.850	1.150	HRU 08 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_09	multiplier	0.850	1.150	HRU 09 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_10	multiplier	0.850	1.150	HRU 10 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_11	multiplier	0.850	1.150	HRU 11 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_12	multiplier	0.850	1.150	HRU 12 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_13	multiplier	0.850	1.150	HRU 13 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_14	multiplier	0.850	1.150	HRU 14 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_15	multiplier	0.850	1.150	HRU 15 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_16	multiplier	0.850	1.150	HRU 16 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_17	multiplier	0.850	1.150	HRU 17 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_18	multiplier	0.850	1.150	HRU 18 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_19	multiplier	0.850	1.150	HRU 19 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_20	multiplier	0.850	1.150	HRU 20 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_21	multiplier	0.850	1.150	HRU 21 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_22	multiplier	0.850	1.150	HRU 22 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_23	multiplier	0.850	1.150	HRU 23 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_24	multiplier	0.850	1.150	HRU 24 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_25	multiplier	0.850	1.150	HRU 25 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_26	multiplier	0.850	1.150	HRU 26 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_27	multiplier	0.850	1.150	HRU 27 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_28	multiplier	0.850	1.150	HRU 28 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_29	multiplier	0.850	1.150	HRU 29 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_30	multiplier	0.850	1.150	HRU 30 soil layer 2 available water capacity ($^{mm}/_{mm}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_awc_2_31	multiplier	0.850	1.150	HRU 31 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_32	multiplier	0.850	1.150	HRU 32 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_33	multiplier	0.850	1.150	HRU 33 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_34	multiplier	0.850	1.150	HRU 34 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_35	multiplier	0.850	1.150	HRU 35 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_36	multiplier	0.850	1.150	HRU 36 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_37	multiplier	0.850	1.150	HRU 37 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_38	multiplier	0.850	1.150	HRU 38 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_39	multiplier	0.850	1.150	HRU 39 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_40	multiplier	0.850	1.150	HRU 40 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_41	multiplier	0.850	1.150	HRU 41 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_42	multiplier	0.850	1.150	HRU 42 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_43	multiplier	0.850	1.150	HRU 43 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_44	multiplier	0.850	1.150	HRU 44 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_45	multiplier	0.850	1.150	HRU 45 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_46	multiplier	0.850	1.150	HRU 46 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_47	multiplier	0.850	1.150	HRU 47 soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_2_r	multiplier	1.000	5.000	subbasin soil layer 2 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_01	multiplier	0.850	1.150	HRU 01 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_02	multiplier	0.850	1.150	HRU 02 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_03	multiplier	0.850	1.150	HRU 03 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_04	multiplier	0.850	1.150	HRU 04 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_05	multiplier	0.850	1.150	HRU 05 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_06	multiplier	0.850	1.150	HRU 06 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_07	multiplier	0.850	1.150	HRU 07 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_08	multiplier	0.850	1.150	HRU 08 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_09	multiplier	0.850	1.150	HRU 09 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_10	multiplier	0.850	1.150	HRU 10 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_11	multiplier	0.850	1.150	HRU 11 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_12	multiplier	0.850	1.150	HRU 12 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_13	multiplier	0.850	1.150	HRU 13 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_14	multiplier	0.850	1.150	HRU 14 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_15	multiplier	0.850	1.150	HRU 15 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_16	multiplier	0.850	1.150	HRU 16 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_17	multiplier	0.850	1.150	HRU 17 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_18	multiplier	0.850	1.150	HRU 18 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_19	multiplier	0.850	1.150	HRU 19 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_20	multiplier	0.850	1.150	HRU 20 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_21	multiplier	0.850	1.150	HRU 21 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_22	multiplier	0.850	1.150	HRU 22 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_23	multiplier	0.850	1.150	HRU 23 soil layer 3 available water capacity ($^{mm}/_{mm}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_awc_3_24	multiplier	0.850	1.150	HRU 24 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_25	multiplier	0.850	1.150	HRU 25 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_26	multiplier	0.850	1.150	HRU 26 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_27	multiplier	0.850	1.150	HRU 27 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_28	multiplier	0.850	1.150	HRU 28 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_29	multiplier	0.850	1.150	HRU 29 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_30	multiplier	0.850	1.150	HRU 30 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_31	multiplier	0.850	1.150	HRU 31 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_32	multiplier	0.850	1.150	HRU 32 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_33	multiplier	0.850	1.150	HRU 33 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_34	multiplier	0.850	1.150	HRU 34 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_35	multiplier	0.850	1.150	HRU 35 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_36	multiplier	0.850	1.150	HRU 36 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_37	multiplier	0.850	1.150	HRU 37 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_38	multiplier	0.850	1.150	HRU 38 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_39	multiplier	0.850	1.150	HRU 39 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_40	multiplier	0.850	1.150	HRU 40 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_41	multiplier	0.850	1.150	HRU 41 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_42	multiplier	0.850	1.150	HRU 42 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_43	multiplier	0.850	1.150	HRU 43 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_44	multiplier	0.850	1.150	HRU 44 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_45	multiplier	0.850	1.150	HRU 45 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_46	multiplier	0.850	1.150	HRU 46 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_47	multiplier	0.850	1.150	HRU 47 soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_awc_3_r	multiplier	1.000	5.000	subbasin soil layer 3 available water capacity ($^{mm}/_{mm}$)
sol_k_1_01	multiplier	0.850	1.150	HRU 01 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_02	multiplier	0.850	1.150	HRU 02 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_03	multiplier	0.850	1.150	HRU 03 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_04	multiplier	0.850	1.150	HRU 04 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_05	multiplier	0.850	1.150	HRU 05 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_06	multiplier	0.850	1.150	HRU 06 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_07	multiplier	0.850	1.150	HRU 07 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_08	multiplier	0.850	1.150	HRU 08 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_09	multiplier	0.850	1.150	HRU 09 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_10	multiplier	0.850	1.150	HRU 10 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_11	multiplier	0.850	1.150	HRU 11 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_12	multiplier	0.850	1.150	HRU 12 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_13	multiplier	0.850	1.150	HRU 13 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_14	multiplier	0.850	1.150	HRU 14 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_15	multiplier	0.850	1.150	HRU 15 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_16	multiplier	0.850	1.150	HRU 16 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_k_1_17	multiplier	0.850	1.150	HRU 17 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_18	multiplier	0.850	1.150	HRU 18 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_19	multiplier	0.850	1.150	HRU 19 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_20	multiplier	0.850	1.150	HRU 20 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_21	multiplier	0.850	1.150	HRU 21 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_22	multiplier	0.850	1.150	HRU 22 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_23	multiplier	0.850	1.150	HRU 23 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_24	multiplier	0.850	1.150	HRU 24 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_25	multiplier	0.850	1.150	HRU 25 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_26	multiplier	0.850	1.150	HRU 26 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_27	multiplier	0.850	1.150	HRU 27 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_28	multiplier	0.850	1.150	HRU 28 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_29	multiplier	0.850	1.150	HRU 29 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_30	multiplier	0.850	1.150	HRU 30 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_31	multiplier	0.850	1.150	HRU 31 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_32	multiplier	0.850	1.150	HRU 32 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_33	multiplier	0.850	1.150	HRU 33 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_34	multiplier	0.850	1.150	HRU 34 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_35	multiplier	0.850	1.150	HRU 35 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_36	multiplier	0.850	1.150	HRU 36 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_37	multiplier	0.850	1.150	HRU 37 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_38	multiplier	0.850	1.150	HRU 38 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_39	multiplier	0.850	1.150	HRU 39 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_40	multiplier	0.850	1.150	HRU 40 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_41	multiplier	0.850	1.150	HRU 41 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_42	multiplier	0.850	1.150	HRU 42 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_43	multiplier	0.850	1.150	HRU 43 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_44	multiplier	0.850	1.150	HRU 44 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_45	multiplier	0.850	1.150	HRU 45 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_46	multiplier	0.850	1.150	HRU 46 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_47	multiplier	0.850	1.150	HRU 47 soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_1_r	multiplier	1.000	5.000	subbasin soil layer 1 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_01	multiplier	0.850	1.150	HRU 01 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_02	multiplier	0.850	1.150	HRU 02 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_03	multiplier	0.850	1.150	HRU 03 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_04	multiplier	0.850	1.150	HRU 04 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_05	multiplier	0.850	1.150	HRU 05 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_06	multiplier	0.850	1.150	HRU 06 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_07	multiplier	0.850	1.150	HRU 07 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_08	multiplier	0.850	1.150	HRU 08 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_09	multiplier	0.850	1.150	HRU 09 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_k_2_10	multiplier	0.850	1.150	HRU 10 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_11	multiplier	0.850	1.150	HRU 11 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_12	multiplier	0.850	1.150	HRU 12 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_13	multiplier	0.850	1.150	HRU 13 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_14	multiplier	0.850	1.150	HRU 14 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_15	multiplier	0.850	1.150	HRU 15 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_16	multiplier	0.850	1.150	HRU 16 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_17	multiplier	0.850	1.150	HRU 17 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_18	multiplier	0.850	1.150	HRU 18 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_19	multiplier	0.850	1.150	HRU 19 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_20	multiplier	0.850	1.150	HRU 20 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_21	multiplier	0.850	1.150	HRU 21 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_22	multiplier	0.850	1.150	HRU 22 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_23	multiplier	0.850	1.150	HRU 23 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_24	multiplier	0.850	1.150	HRU 24 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_25	multiplier	0.850	1.150	HRU 25 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_26	multiplier	0.850	1.150	HRU 26 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_27	multiplier	0.850	1.150	HRU 27 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_28	multiplier	0.850	1.150	HRU 28 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_29	multiplier	0.850	1.150	HRU 29 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_30	multiplier	0.850	1.150	HRU 30 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_31	multiplier	0.850	1.150	HRU 31 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_32	multiplier	0.850	1.150	HRU 32 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_33	multiplier	0.850	1.150	HRU 33 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_34	multiplier	0.850	1.150	HRU 34 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_35	multiplier	0.850	1.150	HRU 35 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_36	multiplier	0.850	1.150	HRU 36 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_37	multiplier	0.850	1.150	HRU 37 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_38	multiplier	0.850	1.150	HRU 38 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_39	multiplier	0.850	1.150	HRU 39 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_40	multiplier	0.850	1.150	HRU 40 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_41	multiplier	0.850	1.150	HRU 41 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_42	multiplier	0.850	1.150	HRU 42 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_43	multiplier	0.850	1.150	HRU 43 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_44	multiplier	0.850	1.150	HRU 44 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_45	multiplier	0.850	1.150	HRU 45 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_46	multiplier	0.850	1.150	HRU 46 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_47	multiplier	0.850	1.150	HRU 47 soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_2_r	multiplier	1.000	5.000	subbasin soil layer 2 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_01	multiplier	0.850	1.150	HRU 01 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_02	multiplier	0.850	1.150	HRU 02 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_k_3_03	multiplier	0.850	1.150	HRU 03 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_04	multiplier	0.850	1.150	HRU 04 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_05	multiplier	0.850	1.150	HRU 05 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_06	multiplier	0.850	1.150	HRU 06 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_07	multiplier	0.850	1.150	HRU 07 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_08	multiplier	0.850	1.150	HRU 08 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_09	multiplier	0.850	1.150	HRU 09 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_10	multiplier	0.850	1.150	HRU 10 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_11	multiplier	0.850	1.150	HRU 11 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_12	multiplier	0.850	1.150	HRU 12 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_13	multiplier	0.850	1.150	HRU 13 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_14	multiplier	0.850	1.150	HRU 14 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_15	multiplier	0.850	1.150	HRU 15 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_16	multiplier	0.850	1.150	HRU 16 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_17	multiplier	0.850	1.150	HRU 17 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_18	multiplier	0.850	1.150	HRU 18 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_19	multiplier	0.850	1.150	HRU 19 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_20	multiplier	0.850	1.150	HRU 20 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_21	multiplier	0.850	1.150	HRU 21 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_22	multiplier	0.850	1.150	HRU 22 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_23	multiplier	0.850	1.150	HRU 23 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_24	multiplier	0.850	1.150	HRU 24 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_25	multiplier	0.850	1.150	HRU 25 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_26	multiplier	0.850	1.150	HRU 26 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_27	multiplier	0.850	1.150	HRU 27 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_28	multiplier	0.850	1.150	HRU 28 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_29	multiplier	0.850	1.150	HRU 29 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_30	multiplier	0.850	1.150	HRU 30 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_31	multiplier	0.850	1.150	HRU 31 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_32	multiplier	0.850	1.150	HRU 32 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_33	multiplier	0.850	1.150	HRU 33 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_34	multiplier	0.850	1.150	HRU 34 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_35	multiplier	0.850	1.150	HRU 35 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_36	multiplier	0.850	1.150	HRU 36 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_37	multiplier	0.850	1.150	HRU 37 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_38	multiplier	0.850	1.150	HRU 38 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_39	multiplier	0.850	1.150	HRU 39 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_40	multiplier	0.850	1.150	HRU 40 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_41	multiplier	0.850	1.150	HRU 41 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_42	multiplier	0.850	1.150	HRU 42 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_43	multiplier	0.850	1.150	HRU 43 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_k_3_44	multiplier	0.850	1.150	HRU 44 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_45	multiplier	0.850	1.150	HRU 45 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_46	multiplier	0.850	1.150	HRU 46 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_47	multiplier	0.850	1.150	HRU 47 soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_k_3_r	multiplier	1.000	5.000	subbasin soil layer 3 saturated hydraulic conductivity ($^{mm}/_{hr}$)
sol_thk_1_01	multiplier	0.850	1.150	HRU 01 soil layer 1 thickness (mm)
sol_thk_1_02	multiplier	0.850	1.150	HRU 02 soil layer 1 thickness (mm)
sol_thk_1_03	multiplier	0.850	1.150	HRU 03 soil layer 1 thickness (mm)
sol_thk_1_04	multiplier	0.850	1.150	HRU 04 soil layer 1 thickness (mm)
sol_thk_1_05	multiplier	0.850	1.150	HRU 05 soil layer 1 thickness (mm)
sol_thk_1_06	multiplier	0.850	1.150	HRU 06 soil layer 1 thickness (mm)
sol_thk_1_07	multiplier	0.850	1.150	HRU 07 soil layer 1 thickness (mm)
sol_thk_1_08	multiplier	0.850	1.150	HRU 08 soil layer 1 thickness (mm)
sol_thk_1_09	multiplier	0.850	1.150	HRU 09 soil layer 1 thickness (mm)
sol_thk_1_10	multiplier	0.850	1.150	HRU 10 soil layer 1 thickness (mm)
sol_thk_1_11	multiplier	0.850	1.150	HRU 11 soil layer 1 thickness (mm)
sol_thk_1_12	multiplier	0.850	1.150	HRU 12 soil layer 1 thickness (mm)
sol_thk_1_13	multiplier	0.850	1.150	HRU 13 soil layer 1 thickness (mm)
sol_thk_1_14	multiplier	0.850	1.150	HRU 14 soil layer 1 thickness (mm)
sol_thk_1_15	multiplier	0.850	1.150	HRU 15 soil layer 1 thickness (mm)
sol_thk_1_16	multiplier	0.850	1.150	HRU 16 soil layer 1 thickness (mm)
sol_thk_1_17	multiplier	0.850	1.150	HRU 17 soil layer 1 thickness (mm)
sol_thk_1_18	multiplier	0.850	1.150	HRU 18 soil layer 1 thickness (mm)
sol_thk_1_19	multiplier	0.850	1.150	HRU 19 soil layer 1 thickness (mm)
sol_thk_1_20	multiplier	0.850	1.150	HRU 20 soil layer 1 thickness (mm)
sol_thk_1_21	multiplier	0.850	1.150	HRU 21 soil layer 1 thickness (mm)
sol_thk_1_22	multiplier	0.850	1.150	HRU 22 soil layer 1 thickness (mm)
sol_thk_1_23	multiplier	0.850	1.150	HRU 23 soil layer 1 thickness (mm)
sol_thk_1_24	multiplier	0.850	1.150	HRU 24 soil layer 1 thickness (mm)
sol_thk_1_25	multiplier	0.850	1.150	HRU 25 soil layer 1 thickness (mm)
sol_thk_1_26	multiplier	0.850	1.150	HRU 26 soil layer 1 thickness (mm)
sol_thk_1_27	multiplier	0.850	1.150	HRU 27 soil layer 1 thickness (mm)
sol_thk_1_28	multiplier	0.850	1.150	HRU 28 soil layer 1 thickness (mm)
sol_thk_1_29	multiplier	0.850	1.150	HRU 29 soil layer 1 thickness (mm)
sol_thk_1_30	multiplier	0.850	1.150	HRU 30 soil layer 1 thickness (mm)
sol_thk_1_31	multiplier	0.850	1.150	HRU 31 soil layer 1 thickness (mm)
sol_thk_1_32	multiplier	0.850	1.150	HRU 32 soil layer 1 thickness (mm)
sol_thk_1_33	multiplier	0.850	1.150	HRU 33 soil layer 1 thickness (mm)
sol_thk_1_34	multiplier	0.850	1.150	HRU 34 soil layer 1 thickness (mm)
sol_thk_1_35	multiplier	0.850	1.150	HRU 35 soil layer 1 thickness (mm)
sol_thk_1_36	multiplier	0.850	1.150	HRU 36 soil layer 1 thickness (mm)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_thk_1_37	multiplier	0.850	1.150	HRU 37 soil layer 1 thickness (mm)
sol_thk_1_38	multiplier	0.850	1.150	HRU 38 soil layer 1 thickness (mm)
sol_thk_1_39	multiplier	0.850	1.150	HRU 39 soil layer 1 thickness (mm)
sol_thk_1_40	multiplier	0.850	1.150	HRU 40 soil layer 1 thickness (mm)
sol_thk_1_41	multiplier	0.850	1.150	HRU 41 soil layer 1 thickness (mm)
sol_thk_1_42	multiplier	0.850	1.150	HRU 42 soil layer 1 thickness (mm)
sol_thk_1_43	multiplier	0.850	1.150	HRU 43 soil layer 1 thickness (mm)
sol_thk_1_44	multiplier	0.850	1.150	HRU 44 soil layer 1 thickness (mm)
sol_thk_1_45	multiplier	0.850	1.150	HRU 45 soil layer 1 thickness (mm)
sol_thk_1_46	multiplier	0.850	1.150	HRU 46 soil layer 1 thickness (mm)
sol_thk_1_47	multiplier	0.850	1.150	HRU 47 soil layer 1 thickness (mm)
sol_thk_2_01	multiplier	0.850	1.150	HRU 01 soil layer 2 thickness (mm)
sol_thk_2_02	multiplier	0.850	1.150	HRU 02 soil layer 2 thickness (mm)
sol_thk_2_03	multiplier	0.850	1.150	HRU 03 soil layer 2 thickness (mm)
sol_thk_2_04	multiplier	0.850	1.150	HRU 04 soil layer 2 thickness (mm)
sol_thk_2_05	multiplier	0.850	1.150	HRU 05 soil layer 2 thickness (mm)
sol_thk_2_06	multiplier	0.850	1.150	HRU 06 soil layer 2 thickness (mm)
sol_thk_2_07	multiplier	0.850	1.150	HRU 07 soil layer 2 thickness (mm)
sol_thk_2_08	multiplier	0.850	1.150	HRU 08 soil layer 2 thickness (mm)
sol_thk_2_09	multiplier	0.850	1.150	HRU 09 soil layer 2 thickness (mm)
sol_thk_2_10	multiplier	0.850	1.150	HRU 10 soil layer 2 thickness (mm)
sol_thk_2_11	multiplier	0.850	1.150	HRU 11 soil layer 2 thickness (mm)
sol_thk_2_12	multiplier	0.850	1.150	HRU 12 soil layer 2 thickness (mm)
sol_thk_2_13	multiplier	0.850	1.150	HRU 13 soil layer 2 thickness (mm)
sol_thk_2_14	multiplier	0.850	1.150	HRU 14 soil layer 2 thickness (mm)
sol_thk_2_15	multiplier	0.850	1.150	HRU 15 soil layer 2 thickness (mm)
sol_thk_2_16	multiplier	0.850	1.150	HRU 16 soil layer 2 thickness (mm)
sol_thk_2_17	multiplier	0.850	1.150	HRU 17 soil layer 2 thickness (mm)
sol_thk_2_18	multiplier	0.850	1.150	HRU 18 soil layer 2 thickness (mm)
sol_thk_2_19	multiplier	0.850	1.150	HRU 19 soil layer 2 thickness (mm)
sol_thk_2_20	multiplier	0.850	1.150	HRU 20 soil layer 2 thickness (mm)
sol_thk_2_21	multiplier	0.850	1.150	HRU 21 soil layer 2 thickness (mm)
sol_thk_2_22	multiplier	0.850	1.150	HRU 22 soil layer 2 thickness (mm)
sol_thk_2_23	multiplier	0.850	1.150	HRU 23 soil layer 2 thickness (mm)
sol_thk_2_24	multiplier	0.850	1.150	HRU 24 soil layer 2 thickness (mm)
sol_thk_2_25	multiplier	0.850	1.150	HRU 25 soil layer 2 thickness (mm)
sol_thk_2_26	multiplier	0.850	1.150	HRU 26 soil layer 2 thickness (mm)
sol_thk_2_27	multiplier	0.850	1.150	HRU 27 soil layer 2 thickness (mm)
sol_thk_2_28	multiplier	0.850	1.150	HRU 28 soil layer 2 thickness (mm)
sol_thk_2_29	multiplier	0.850	1.150	HRU 29 soil layer 2 thickness (mm)
sol_thk_2_30	multiplier	0.850	1.150	HRU 30 soil layer 2 thickness (mm)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_thk_2_31	multiplier	0.850	1.150	HRU 31 soil layer 2 thickness (mm)
sol_thk_2_32	multiplier	0.850	1.150	HRU 32 soil layer 2 thickness (mm)
sol_thk_2_33	multiplier	0.850	1.150	HRU 33 soil layer 2 thickness (mm)
sol_thk_2_34	multiplier	0.850	1.150	HRU 34 soil layer 2 thickness (mm)
sol_thk_2_35	multiplier	0.850	1.150	HRU 35 soil layer 2 thickness (mm)
sol_thk_2_36	multiplier	0.850	1.150	HRU 36 soil layer 2 thickness (mm)
sol_thk_2_37	multiplier	0.850	1.150	HRU 37 soil layer 2 thickness (mm)
sol_thk_2_38	multiplier	0.850	1.150	HRU 38 soil layer 2 thickness (mm)
sol_thk_2_39	multiplier	0.850	1.150	HRU 39 soil layer 2 thickness (mm)
sol_thk_2_40	multiplier	0.850	1.150	HRU 40 soil layer 2 thickness (mm)
sol_thk_2_41	multiplier	0.850	1.150	HRU 41 soil layer 2 thickness (mm)
sol_thk_2_42	multiplier	0.850	1.150	HRU 42 soil layer 2 thickness (mm)
sol_thk_2_43	multiplier	0.850	1.150	HRU 43 soil layer 2 thickness (mm)
sol_thk_2_44	multiplier	0.850	1.150	HRU 44 soil layer 2 thickness (mm)
sol_thk_2_45	multiplier	0.850	1.150	HRU 45 soil layer 2 thickness (mm)
sol_thk_2_46	multiplier	0.850	1.150	HRU 46 soil layer 2 thickness (mm)
sol_thk_2_47	multiplier	0.850	1.150	HRU 47 soil layer 2 thickness (mm)
sol_thk_3_01	multiplier	0.850	1.150	HRU 01 soil layer 3 thickness (mm)
sol_thk_3_02	multiplier	0.850	1.150	HRU 02 soil layer 3 thickness (mm)
sol_thk_3_03	multiplier	0.850	1.150	HRU 03 soil layer 3 thickness (mm)
sol_thk_3_04	multiplier	0.850	1.150	HRU 04 soil layer 3 thickness (mm)
sol_thk_3_05	multiplier	0.850	1.150	HRU 05 soil layer 3 thickness (mm)
sol_thk_3_06	multiplier	0.850	1.150	HRU 06 soil layer 3 thickness (mm)
sol_thk_3_07	multiplier	0.850	1.150	HRU 07 soil layer 3 thickness (mm)
sol_thk_3_08	multiplier	0.850	1.150	HRU 08 soil layer 3 thickness (mm)
sol_thk_3_09	multiplier	0.850	1.150	HRU 09 soil layer 3 thickness (mm)
sol_thk_3_10	multiplier	0.850	1.150	HRU 10 soil layer 3 thickness (mm)
sol_thk_3_11	multiplier	0.850	1.150	HRU 11 soil layer 3 thickness (mm)
sol_thk_3_12	multiplier	0.850	1.150	HRU 12 soil layer 3 thickness (mm)
sol_thk_3_13	multiplier	0.850	1.150	HRU 13 soil layer 3 thickness (mm)
sol_thk_3_14	multiplier	0.850	1.150	HRU 14 soil layer 3 thickness (mm)
sol_thk_3_15	multiplier	0.850	1.150	HRU 15 soil layer 3 thickness (mm)
sol_thk_3_16	multiplier	0.850	1.150	HRU 16 soil layer 3 thickness (mm)
sol_thk_3_17	multiplier	0.850	1.150	HRU 17 soil layer 3 thickness (mm)
sol_thk_3_18	multiplier	0.850	1.150	HRU 18 soil layer 3 thickness (mm)
sol_thk_3_19	multiplier	0.850	1.150	HRU 19 soil layer 3 thickness (mm)
sol_thk_3_20	multiplier	0.850	1.150	HRU 20 soil layer 3 thickness (mm)
sol_thk_3_21	multiplier	0.850	1.150	HRU 21 soil layer 3 thickness (mm)
sol_thk_3_22	multiplier	0.850	1.150	HRU 22 soil layer 3 thickness (mm)
sol_thk_3_23	multiplier	0.850	1.150	HRU 23 soil layer 3 thickness (mm)
sol_thk_3_24	multiplier	0.850	1.150	HRU 24 soil layer 3 thickness (mm)

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
sol_thk_3_25	multiplier	0.850	1.150	HRU 25 soil layer 3 thickness (mm)
sol_thk_3_26	multiplier	0.850	1.150	HRU 26 soil layer 3 thickness (mm)
sol_thk_3_27	multiplier	0.850	1.150	HRU 27 soil layer 3 thickness (mm)
sol_thk_3_28	multiplier	0.850	1.150	HRU 28 soil layer 3 thickness (mm)
sol_thk_3_29	multiplier	0.850	1.150	HRU 29 soil layer 3 thickness (mm)
sol_thk_3_30	multiplier	0.850	1.150	HRU 30 soil layer 3 thickness (mm)
sol_thk_3_31	multiplier	0.850	1.150	HRU 31 soil layer 3 thickness (mm)
sol_thk_3_32	multiplier	0.850	1.150	HRU 32 soil layer 3 thickness (mm)
sol_thk_3_33	multiplier	0.850	1.150	HRU 33 soil layer 3 thickness (mm)
sol_thk_3_34	multiplier	0.850	1.150	HRU 34 soil layer 3 thickness (mm)
sol_thk_3_35	multiplier	0.850	1.150	HRU 35 soil layer 3 thickness (mm)
sol_thk_3_36	multiplier	0.850	1.150	HRU 36 soil layer 3 thickness (mm)
sol_thk_3_37	multiplier	0.850	1.150	HRU 37 soil layer 3 thickness (mm)
sol_thk_3_38	multiplier	0.850	1.150	HRU 38 soil layer 3 thickness (mm)
sol_thk_3_39	multiplier	0.850	1.150	HRU 39 soil layer 3 thickness (mm)
sol_thk_3_40	multiplier	0.850	1.150	HRU 40 soil layer 3 thickness (mm)
sol_thk_3_41	multiplier	0.850	1.150	HRU 41 soil layer 3 thickness (mm)
sol_thk_3_42	multiplier	0.850	1.150	HRU 42 soil layer 3 thickness (mm)
sol_thk_3_43	multiplier	0.850	1.150	HRU 43 soil layer 3 thickness (mm)
sol_thk_3_44	multiplier	0.850	1.150	HRU 44 soil layer 3 thickness (mm)
sol_thk_3_45	multiplier	0.850	1.150	HRU 45 soil layer 3 thickness (mm)
sol_thk_3_46	multiplier	0.850	1.150	HRU 46 soil layer 3 thickness (mm)
sol_thk_3_47	multiplier	0.850	1.150	HRU 47 soil layer 3 thickness (mm)
surlag_01	multiplier	0.850	1.150	HRU 01 surface runoff lag coefficient
surlag_02	multiplier	0.850	1.150	HRU 02 surface runoff lag coefficient
surlag_03	multiplier	0.850	1.150	HRU 03 surface runoff lag coefficient
surlag_04	multiplier	0.850	1.150	HRU 04 surface runoff lag coefficient
surlag_05	multiplier	0.850	1.150	HRU 05 surface runoff lag coefficient
surlag_06	multiplier	0.850	1.150	HRU 06 surface runoff lag coefficient
surlag_07	multiplier	0.850	1.150	HRU 07 surface runoff lag coefficient
surlag_08	multiplier	0.850	1.150	HRU 08 surface runoff lag coefficient
surlag_09	multiplier	0.850	1.150	HRU 09 surface runoff lag coefficient
surlag_10	multiplier	0.850	1.150	HRU 10 surface runoff lag coefficient
surlag_11	multiplier	0.850	1.150	HRU 11 surface runoff lag coefficient
surlag_12	multiplier	0.850	1.150	HRU 12 surface runoff lag coefficient
surlag_13	multiplier	0.850	1.150	HRU 13 surface runoff lag coefficient
surlag_14	multiplier	0.850	1.150	HRU 14 surface runoff lag coefficient
surlag_15	multiplier	0.850	1.150	HRU 15 surface runoff lag coefficient
surlag_16	multiplier	0.850	1.150	HRU 16 surface runoff lag coefficient
surlag_17	multiplier	0.850	1.150	HRU 17 surface runoff lag coefficient
surlag_18	multiplier	0.850	1.150	HRU 18 surface runoff lag coefficient

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Parameter	Type	Lower Bound	Upper Bound	Description (with units if applicable)
surlag_19	multiplier	0.850	1.150	HRU 19 surface runoff lag coefficient
surlag_20	multiplier	0.850	1.150	HRU 20 surface runoff lag coefficient
surlag_21	multiplier	0.850	1.150	HRU 21 surface runoff lag coefficient
surlag_22	multiplier	0.850	1.150	HRU 22 surface runoff lag coefficient
surlag_23	multiplier	0.850	1.150	HRU 23 surface runoff lag coefficient
surlag_24	multiplier	0.850	1.150	HRU 24 surface runoff lag coefficient
surlag_25	multiplier	0.850	1.150	HRU 25 surface runoff lag coefficient
surlag_26	multiplier	0.850	1.150	HRU 26 surface runoff lag coefficient
surlag_27	multiplier	0.850	1.150	HRU 27 surface runoff lag coefficient
surlag_28	multiplier	0.850	1.150	HRU 28 surface runoff lag coefficient
surlag_29	multiplier	0.850	1.150	HRU 29 surface runoff lag coefficient
surlag_30	multiplier	0.850	1.150	HRU 30 surface runoff lag coefficient
surlag_31	multiplier	0.850	1.150	HRU 31 surface runoff lag coefficient
surlag_32	multiplier	0.850	1.150	HRU 32 surface runoff lag coefficient
surlag_33	multiplier	0.850	1.150	HRU 33 surface runoff lag coefficient
surlag_34	multiplier	0.850	1.150	HRU 34 surface runoff lag coefficient
surlag_35	multiplier	0.850	1.150	HRU 35 surface runoff lag coefficient
surlag_36	multiplier	0.850	1.150	HRU 36 surface runoff lag coefficient
surlag_37	multiplier	0.850	1.150	HRU 37 surface runoff lag coefficient
surlag_38	multiplier	0.850	1.150	HRU 38 surface runoff lag coefficient
surlag_39	multiplier	0.850	1.150	HRU 39 surface runoff lag coefficient
surlag_40	multiplier	0.850	1.150	HRU 40 surface runoff lag coefficient
surlag_41	multiplier	0.850	1.150	HRU 41 surface runoff lag coefficient
surlag_42	multiplier	0.850	1.150	HRU 42 surface runoff lag coefficient
surlag_43	multiplier	0.850	1.150	HRU 43 surface runoff lag coefficient
surlag_44	multiplier	0.850	1.150	HRU 44 surface runoff lag coefficient
surlag_45	multiplier	0.850	1.150	HRU 45 surface runoff lag coefficient
surlag_46	multiplier	0.850	1.150	HRU 46 surface runoff lag coefficient
surlag_47	multiplier	0.850	1.150	HRU 47 surface runoff lag coefficient
surlag_v	value	2.000	12.000	subbasin surface runoff lag coefficient
topt_frsd	value	15.000	45.000	subbasin decidous forest optimal growth temp(° C)
topt_frse	value	15.000	45.000	subbasin evergreen forest optimal growth temp(° C)
topt_rnge	value	12.500	37.500	subbasin rangeland optimal growth temp(° C)
trnsrch_v	value	0.500	0.980	subbasin deep aquifer fraction main channel transmission losses

Supplementart Material: Table S2. The five most influential parameters for QOIs and conditioning measures from the method of Morris analysis.

- pretreatment ET-precipitation ratio:
  - *pcp_3_2002*: 2002 75th to 100th quantile precip
  - *esco_v*: subbasin soil evaporation compensation factor
  - *pcp_3_2003*: 2003 75th to 100th quantile precip
  - *alaimin_frse*: subbasin evergreen forest dormant min leaf area index
  - *pcp_2_2002*: 2002 50th to 75th quantile precip
- pretreatment discharge-precipitation ratio:
  - *cn2_r*: subbasin soil moisture condition II curve number
  - *pcp_3_2002*: 2002 75th to 100th quantile precip
  - *gw_revap_v*: subbasin groundwater 'revap' coefficient
  - *slsubbsn_r*: subbasin average slope length (m)
  - *trnsrch_v*: subbasin deep aquifer fraction main channel transmission losses
- post-treatment ET-precipitation ratio:
  - *esco_v*: subbasin soil evaporation compensation factor
  - *pcp_3_2007*: 2007 75th to 100th quantile precip
  - *pcp_3_2010*: 2010 75th to 100th quantile precip
  - *alaimin_frse*: subbasin evergreen forest dormant min leaf area index
  - *canmxfac_15*: rangeland fraction of max canopy storage
- post-treatment discharge-precipitation ratio:
  - *cn2_r*: subbasin soil moisture condition II curve number
  - *trnsrch_v*: subbasin deep aquifer fraction main channel transmission losses
  - *gw_revap_v*: subbasin groundwater 'revap' coefficient
  - *slsubbsn_r*: subbasin average slope length (m)
  - *pcp_3_2007*: 2007 75th to 100th quantile precip
- post-treatment ET difference ratio:
  - *canmxfac_15*: rangeland fraction of max canopy storage
  - *alaimin_frse*: subbasin evergreen forest dormant min leaf area index
  - *pcp_3_2006*: 2006 75th to 100th quantile precip
  - *canmx_20*: hru 20 max canopy storage for evergreen forest (mm)
  - *canmx_22*: hru 22 max canopy storage for evergreen forest (mm)
- Nash-Sutcliffe efficiency:

  - *cn2_r*: subbasin soil moisture condition II curve number
  - *pcp_3_2002*: 2002 75th to 100th quantile precip
  - *cn2_20*: hru 20 soil moisture condition II curve number
  - *cn2_18*: hru 18 soil moisture condition II curve number
  - *cn2_22*: hru 22 soil moisture condition II curve number
- correlation coefficient:
  - *cn2_r*: subbasin soil moisture condition II curve number
  - *slsubbsn_r*: subbasin average slope length (m)
  - *pcp_3_2002*: 2002 75th to 100th quantile precip
  - *cn2_20*: hru 20 soil moisture condition II curve number
  - *cn2_07*: hru 7 soil moisture condition II curve number
- percent bias:
  - *cn2_r*: subbasin soil moisture condition II curve number
  - *pcp_3_2002*: 2002 75th to 100th quantile precip
  - *gw_revap_v*: subbasin groundwater 'revap' coefficient
  - *trnsrch_v*: subbasin deep aquifer fraction main channel transmission losses
  - *slsubbsn_r*: subbasin average slope length (m)

Supplementart Material: Table S3. Summary of method of Morris results showing the mean dimensionless sensitivity of the parameters to the conditioning measures and QOIs.

control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
alaimin_frsd	1.633370e-02	-1.578970e-03	2.183980e-02	-2.688410e-03	-9.884980e-04	9.080190e-02
alaimin_frse	7.688140e-02	-5.204550e-03	7.627450e-02	-8.309500e-03	2.907040e-02	3.314940e-01
alaimin_rnge	1.131420e-02	-2.338250e-03	1.398910e-02	-2.674140e-03	-1.857440e-04	5.471230e-02
alpha_bf_01	0.000000e+00	3.606090e-05	0.000000e+00	1.315060e-05	0.000000e+00	-1.998010e-02
alpha_bf_02	0.000000e+00	5.448720e-07	0.000000e+00	3.044870e-07	0.000000e+00	-6.410260e-08
alpha_bf_03	0.000000e+00	2.339740e-06	0.000000e+00	1.137820e-06	0.000000e+00	2.198720e-05
alpha_bf_04	0.000000e+00	-9.615390e-08	0.000000e+00	4.487180e-08	0.000000e+00	4.112700e-14
alpha_bf_05	0.000000e+00	4.615380e-06	0.000000e+00	9.679480e-07	0.000000e+00	-5.160270e-06
alpha_bf_06	0.000000e+00	2.019230e-06	0.000000e+00	3.205130e-06	0.000000e+00	2.275640e-05
alpha_bf_07	0.000000e+00	6.538460e-06	0.000000e+00	2.570510e-06	0.000000e+00	4.307690e-05
alpha_bf_08	0.000000e+00	3.205120e-08	0.000000e+00	4.487180e-08	0.000000e+00	2.083330e-06
alpha_bf_09	0.000000e+00	1.602560e-07	0.000000e+00	9.935900e-08	0.000000e+00	2.147440e-06
alpha_bf_10	0.000000e+00	6.410260e-08	0.000000e+00	1.185900e-07	0.000000e+00	-8.974360e-07
alpha_bf_11	0.000000e+00	1.570510e-06	0.000000e+00	4.358970e-07	0.000000e+00	-3.750000e-06
alpha_bf_12	0.000000e+00	2.948720e-06	0.000000e+00	1.980770e-06	0.000000e+00	-5.403850e-05
alpha_bf_13	0.000000e+00	1.410260e-06	0.000000e+00	5.032050e-07	0.000000e+00	-2.051280e-06
alpha_bf_14	0.000000e+00	-1.282050e-07	0.000000e+00	6.089750e-08	0.000000e+00	3.141030e-06
alpha_bf_15	0.000000e+00	3.205130e-08	0.000000e+00	-9.615390e-09	0.000000e+00	2.692310e-06
alpha_bf_16	0.000000e+00	2.243590e-07	0.000000e+00	1.346150e-07	0.000000e+00	-1.282050e-06
alpha_bf_17	0.000000e+00	9.935900e-07	0.000000e+00	3.942310e-07	0.000000e+00	-1.282050e-07
alpha_bf_18	0.000000e+00	5.993590e-06	0.000000e+00	3.599360e-06	0.000000e+00	-9.125000e-05
alpha_bf_19	0.000000e+00	-1.634620e-06	0.000000e+00	1.246800e-06	0.000000e+00	3.631410e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
alpha_bf_20	0.000000e+00	1.528850e-05	0.000000e+00	8.413460e-06	0.000000e+00	1.340380e-04
alpha_bf_21	0.000000e+00	7.179490e-06	0.000000e+00	6.304490e-06	0.000000e+00	-1.181090e-04
alpha_bf_22	0.000000e+00	3.717950e-06	0.000000e+00	2.871790e-06	0.000000e+00	4.698720e-05
alpha_bf_23	0.000000e+00	-4.487180e-07	0.000000e+00	7.820510e-07	0.000000e+00	1.839740e-05
alpha_bf_24	0.000000e+00	3.301280e-06	0.000000e+00	-2.205130e-06	0.000000e+00	2.342950e-05
alpha_bf_25	0.000000e+00	4.807700e-07	0.000000e+00	9.903850e-07	0.000000e+00	5.608970e-06
alpha_bf_26	0.000000e+00	0.000000e+00	0.000000e+00	6.089740e-08	0.000000e+00	0.000000e+00
alpha_bf_27	0.000000e+00	2.692310e-06	0.000000e+00	8.782050e-07	0.000000e+00	2.009620e-05
alpha_bf_28	0.000000e+00	2.564100e-07	0.000000e+00	6.538460e-07	0.000000e+00	-3.525640e-07
alpha_bf_29	0.000000e+00	-9.615380e-08	0.000000e+00	1.282050e-08	0.000000e+00	9.615370e-08
alpha_bf_30	0.000000e+00	1.602560e-07	0.000000e+00	5.128210e-08	0.000000e+00	-2.564100e-07
alpha_bf_31	0.000000e+00	-3.205130e-08	0.000000e+00	8.012820e-08	0.000000e+00	2.243590e-07
alpha_bf_32	0.000000e+00	1.660260e-05	0.000000e+00	2.314100e-06	0.000000e+00	-7.160260e-05
alpha_bf_33	0.000000e+00	1.240380e-05	0.000000e+00	6.480770e-06	0.000000e+00	-4.016030e-05
alpha_bf_34	0.000000e+00	2.371790e-05	0.000000e+00	3.048080e-06	0.000000e+00	-1.431410e-04
alpha_bf_35	0.000000e+00	1.602560e-07	0.000000e+00	1.858970e-07	0.000000e+00	-9.294870e-06
alpha_bf_36	0.000000e+00	6.730770e-07	0.000000e+00	3.814100e-07	0.000000e+00	-1.153850e-06
alpha_bf_37	0.000000e+00	-1.602560e-07	0.000000e+00	-4.487180e-08	0.000000e+00	1.858970e-06
alpha_bf_38	0.000000e+00	1.378210e-06	0.000000e+00	9.487180e-07	0.000000e+00	-5.673080e-06
alpha_bf_39	0.000000e+00	-2.243590e-07	0.000000e+00	5.224360e-07	0.000000e+00	-2.435900e-06
alpha_bf_40	0.000000e+00	-1.282050e-07	0.000000e+00	1.634620e-07	0.000000e+00	-2.179490e-06
alpha_bf_41	0.000000e+00	4.447990e-18	0.000000e+00	2.339740e-07	0.000000e+00	5.769230e-07

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
alpha_bf_42	0.000000e+00	3.846150e-07	0.000000e+00	4.967950e-07	0.000000e+00	-1.121800e-06
alpha_bf_43	0.000000e+00	6.410260e-08	0.000000e+00	7.179490e-07	0.000000e+00	-2.756410e-06
alpha_bf_44	0.000000e+00	-1.923080e-07	0.000000e+00	1.698720e-07	0.000000e+00	1.602560e-07
alpha_bf_45	0.000000e+00	-6.410250e-08	0.000000e+00	1.570510e-07	0.000000e+00	2.948720e-06
alpha_bf_46	0.000000e+00	-3.205130e-08	0.000000e+00	1.442310e-07	0.000000e+00	3.365390e-06
alpha_bf_47	0.000000e+00	-1.089740e-06	0.000000e+00	2.564100e-07	0.000000e+00	3.589740e-06
alpha_bf_v	0.000000e+00	3.573290e-04	0.000000e+00	9.449520e-05	0.000000e+00	-4.048560e-02
blai_frsd	-1.774630e-03	1.420670e-04	-2.538560e-03	3.647450e-04	1.137110e-04	-9.404360e-03
blai_frse	-8.193830e-03	4.825800e-04	-7.951580e-03	7.894550e-04	-4.309940e-03	-4.753940e-02
blai_rnge	-1.007950e-03	2.529830e-04	-1.489570e-03	3.503840e-04	1.834500e-05	-6.836620e-03
canmx_01	1.598080e-04	-1.982690e-05	2.570830e-04	-2.073080e-05	-6.750300e-06	1.287340e-03
canmx_02	2.996150e-04	-1.801600e-05	4.296150e-04	-3.010580e-05	6.524860e-06	1.809230e-03
canmx_03	1.329740e-03	-8.894230e-06	1.786570e-03	5.400650e-06	-5.077050e-05	6.061280e-03
canmx_04	4.378200e-05	-6.608970e-06	6.865380e-05	-1.020190e-05	-4.474960e-06	3.651280e-04
canmx_05	1.423210e-03	-1.418850e-04	1.997630e-03	-2.884130e-04	-1.217310e-04	8.150550e-03
canmx_06	1.510900e-03	-1.647020e-04	2.126860e-03	-4.017280e-04	-5.891050e-05	9.217500e-03
canmx_07	2.022310e-03	-3.387720e-04	2.907690e-03	-4.945770e-04	-1.572780e-04	1.897430e-02
canmx_08	1.958330e-05	-1.589740e-06	4.679490e-05	-2.958330e-06	-4.955240e-06	1.297120e-04
canmx_09	4.554490e-05	-7.275640e-06	9.233970e-05	-1.009620e-05	-2.021610e-05	3.964100e-04
canmx_10	1.798080e-05	-1.464740e-06	3.073720e-05	-3.509620e-06	-6.680350e-06	4.858970e-05
canmx_11	2.771790e-04	-1.230070e-12	3.875960e-04	-2.628530e-05	-5.795250e-05	9.798720e-04
canmx_12	5.972440e-04	-3.126600e-05	9.432050e-04	-7.464420e-05	-1.431200e-04	3.578810e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
canmx_13	4.517630e-04	-1.265700e-05	6.907050e-04	-3.324040e-05	-3.974490e-05	2.620800e-03
canmx_14	2.883970e-04	-1.039100e-05	4.710900e-04	-4.482050e-05	-5.113410e-05	8.566350e-04
canmx_15	3.480770e-05	-2.666670e-06	6.189100e-05	-5.016030e-06	1.848490e-06	1.441030e-04
canmx_16	1.417310e-04	-2.012820e-06	1.769870e-04	-7.887820e-06	-2.330510e-05	5.340060e-04
canmx_17	4.826600e-04	-1.305130e-05	6.844230e-04	-6.946800e-05	-4.094100e-05	6.054490e-04
canmx_18	5.173010e-03	1.243110e-04	3.147080e-03	-1.616730e-04	4.902150e-03	1.328770e-02
canmx_19	1.416600e-03	-1.754810e-05	2.061760e-03	-1.863910e-04	-1.564350e-04	2.700800e-03
canmx_20	7.482560e-03	-5.424010e-04	4.704620e-03	-6.076310e-04	7.295540e-03	4.016720e-02
canmx_21	3.177280e-03	-2.265160e-04	4.655510e-03	-5.923880e-04	-2.493660e-04	2.280900e-02
canmx_22	5.384810e-03	-4.366380e-04	3.459710e-03	-4.823910e-04	5.427910e-03	3.303950e-02
canmx_23	6.152880e-04	-6.226920e-05	9.170190e-04	-1.221220e-04	-7.644580e-05	2.862920e-03
canmx_24	1.034360e-03	-8.143270e-05	1.428010e-03	-1.789580e-04	-1.202560e-05	6.012890e-03
canmx_25	8.957690e-04	-5.618270e-05	1.357210e-03	-1.825930e-04	-7.829680e-05	4.693490e-03
canmx_26	1.121790e-05	4.647440e-07	1.259620e-05	-2.217950e-06	-1.934290e-06	-3.237180e-06
canmx_27	6.116030e-04	-1.679490e-05	9.250960e-04	-1.318300e-04	6.566030e-06	1.075670e-03
canmx_28	2.716990e-04	-2.555130e-05	4.522440e-04	-9.440060e-05	-9.510890e-06	9.551920e-04
canmx_29	1.602560e-06	9.935890e-08	4.423080e-06	-1.538460e-07	2.367310e-06	1.602570e-06
canmx_30	1.891030e-06	-1.057690e-07	6.987180e-06	-9.294870e-08	7.116670e-06	5.673080e-06
canmx_31	2.185900e-05	-2.371800e-07	3.849360e-05	-2.355770e-06	4.696150e-06	9.262820e-05
canmx_32	4.108300e-03	-6.888780e-05	2.519710e-03	-7.832370e-05	4.280900e-03	1.018200e-02
canmx_33	2.232720e-03	-3.578210e-05	3.247530e-03	-1.259650e-04	-1.064660e-04	5.902120e-03
canmx_34	3.929260e-03	9.252890e-05	5.662760e-03	-1.922720e-04	-2.562160e-04	1.053530e-02

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
canmx_35	3.890710e-04	-2.745510e-05	4.647120e-04	-8.300640e-05	6.717310e-06	1.852280e-03
canmx_36	2.036860e-04	-3.607050e-05	2.307370e-04	-2.767310e-05	-1.007440e-05	1.166280e-03
canmx_37	6.535260e-05	-1.031090e-05	5.836540e-05	-7.378200e-06	1.249390e-05	4.221150e-04
canmx_38	1.193330e-03	-1.660800e-04	1.553210e-03	-1.006630e-04	-1.226320e-04	1.073730e-02
canmx_39	2.688140e-04	-4.697440e-05	3.641990e-04	-3.780770e-05	2.176600e-06	2.709550e-03
canmx_40	1.466030e-04	-2.110900e-05	1.683650e-04	-1.611540e-05	-7.884560e-07	1.053720e-03
canmx_41	9.448720e-05	-1.622760e-05	1.175000e-04	-2.235260e-05	-1.394260e-05	3.048720e-04
canmx_42	2.685580e-04	-4.988460e-05	3.342950e-04	-8.720510e-05	-7.638480e-06	1.197180e-03
canmx_43	2.885900e-04	-5.915380e-05	3.920510e-04	-1.046060e-04	-6.874780e-05	1.880160e-03
canmx_44	3.852560e-05	-1.044550e-05	4.663460e-05	-1.322760e-05	6.112180e-06	1.792950e-04
canmx_45	9.320510e-05	-1.708970e-05	1.168910e-04	-2.725000e-05	-1.576280e-06	2.454810e-04
canmx_46	2.916670e-05	-6.621790e-06	4.298080e-05	-7.266030e-06	-9.438460e-06	2.336860e-04
canmx_47	1.586860e-04	-4.102370e-04	2.265380e-04	-2.300740e-04	-1.293720e-05	1.786960e-03
canmx_v	3.638840e-03	-3.598170e-04	4.032250e-03	-6.610630e-04	1.511920e-03	2.679670e-02
canmxfac_07	1.432320e-02	-2.039770e-03	2.151300e-02	-3.982340e-03	-6.916940e-04	1.369770e-01
canmxfac_15	1.408120e-02	-2.716290e-03	7.995260e-02	-1.293380e-02	-7.613840e-02	8.170840e-02
ch_k2_r	0.000000e+00	-7.898480e-03	0.000000e+00	-6.575910e-03	0.000000e+00	1.227870e-01
ch_n2_r	0.000000e+00	-6.726690e-04	0.000000e+00	-5.097660e-04	0.000000e+00	5.464500e-02
cn2_01	-7.352560e-05	3.416630e-04	-1.466030e-04	2.587440e-04	-7.221150e-06	-2.734520e-02
cn2_02	-1.066670e-04	8.550100e-04	-1.883650e-04	4.143170e-04	-1.956470e-05	-2.247690e-02
cn2_03	-5.338780e-04	3.419790e-03	-9.897110e-04	2.090280e-03	-5.103530e-06	-1.380400e-01
cn2_04	-9.487180e-06	1.306630e-04	-3.669870e-05	8.092630e-05	3.931730e-06	-8.675380e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
cn2_05	-4.973080e-04	5.115260e-03	-1.472630e-03	4.363300e-03	9.505100e-05	-1.345020e-01
cn2_06	-3.668590e-04	6.578040e-03	-1.015540e-03	4.287900e-03	5.504420e-05	-3.268620e-01
cn2_07	-5.173720e-04	7.931530e-03	-1.774200e-03	5.820350e-03	1.433320e-04	-4.538380e-01
cn2_08	-1.003210e-05	1.307630e-04	-2.657050e-05	7.124360e-05	-4.507370e-06	-4.764130e-03
cn2_09	-1.445510e-05	2.047500e-04	-6.304490e-05	1.314170e-04	4.532060e-07	-5.123690e-03
cn2_10	-4.583330e-06	6.884290e-05	-1.948720e-05	3.744550e-05	3.515060e-06	-4.115170e-03
cn2_11	-3.105770e-05	5.251700e-04	-1.046470e-04	4.103650e-04	1.891990e-05	-4.539290e-02
cn2_12	-7.516020e-05	1.269190e-03	-2.316030e-04	8.608590e-04	1.608240e-05	-1.311910e-01
cn2_13	-4.435900e-05	1.237460e-03	-1.691030e-04	7.171250e-04	3.415000e-05	-1.328960e-01
cn2_14	-1.671150e-04	7.289810e-04	-3.986860e-04	7.468140e-04	3.879680e-05	-7.798070e-02
cn2_15	-2.221150e-05	1.137720e-04	-5.282050e-05	1.086630e-04	-6.178530e-06	-1.087320e-02
cn2_16	-5.096150e-05	3.564940e-04	-1.440060e-04	3.038400e-04	1.369870e-05	-4.692250e-02
cn2_17	-6.179490e-05	1.057760e-03	-2.304810e-04	5.945030e-04	2.343690e-05	-9.073800e-02
cn2_18	-1.683400e-03	8.452160e-03	-3.719420e-03	8.328750e-03	1.672840e-03	-1.124910e+00
cn2_19	-1.559300e-04	2.195280e-03	-4.162180e-04	1.149850e-03	3.183400e-05	-2.676240e-01
cn2_20	-1.764040e-03	2.378500e-02	-7.068330e-03	2.022080e-02	3.962130e-03	-1.695710e+00
cn2_21	-1.449260e-03	1.025130e-02	-3.760740e-03	9.004220e-03	2.807560e-04	-7.043990e-01
cn2_22	-1.807790e-03	1.917120e-02	-6.016920e-03	1.610520e-02	3.251780e-03	-1.555210e+00
cn2_23	-2.259940e-04	1.968170e-03	-4.392630e-04	1.090090e-03	3.624680e-06	-9.861620e-02
cn2_24	-3.213780e-04	2.430910e-03	-7.651600e-04	1.573620e-03	7.412180e-06	-1.435070e-01
cn2_25	-3.469870e-04	2.344880e-03	-6.825960e-04	1.321860e-03	5.158460e-05	-1.462830e-01
cn2_26	-6.185900e-06	1.982690e-05	-8.333330e-06	1.906090e-05	-3.303530e-06	-7.437500e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
cn2_27	-3.635900e-04	1.908350e-03	-6.115060e-04	1.216440e-03	4.312950e-05	-9.281070e-02
cn2_28	-6.618590e-05	7.713210e-04	-1.123400e-04	3.047530e-04	2.934200e-05	-4.831010e-02
cn2_29	0.000000e+00	2.371790e-06	-2.403850e-06	3.935900e-06	1.755450e-06	-1.174360e-04
cn2_30	-1.666670e-06	1.804490e-05	-3.269230e-06	1.279170e-05	1.761860e-06	-1.202820e-03
cn2_31	-3.493590e-06	5.483970e-05	-8.974360e-06	2.580130e-05	4.429490e-06	-1.025310e-02
cn2_32	-3.676920e-04	7.642160e-03	-1.305510e-03	5.376740e-03	6.069660e-04	-1.250810e+00
cn2_33	-1.836540e-04	5.018640e-03	-7.092950e-04	3.574620e-03	1.518940e-05	-6.672250e-01
cn2_34	-4.541670e-04	8.366960e-03	-1.012240e-03	6.381410e-03	1.080250e-04	-1.382740e+00
cn2_35	-3.097440e-04	1.656890e-03	-6.775640e-04	1.138290e-03	4.823400e-05	-1.039810e-01
cn2_36	-7.641020e-05	9.913940e-04	-1.123080e-04	3.679870e-04	4.371820e-07	-8.072780e-02
cn2_37	-4.320510e-05	2.099970e-04	-9.493590e-05	1.428880e-04	2.109940e-05	-1.074810e-02
cn2_38	-7.502880e-04	4.832330e-03	-1.658010e-03	3.066070e-03	6.826890e-05	-2.283980e-01
cn2_39	-1.338460e-04	1.121640e-03	-3.525000e-04	6.866540e-04	2.683460e-05	-5.698200e-02
cn2_40	-6.907050e-05	5.612530e-04	-1.704170e-04	3.679130e-04	-2.244650e-05	-2.995130e-02
cn2_41	-7.762820e-05	4.786440e-04	-1.438780e-04	3.497980e-04	3.196160e-06	-8.944620e-03
cn2_42	-2.278530e-04	1.397500e-03	-3.943590e-04	9.623590e-04	-1.152720e-05	-3.561760e-02
cn2_43	-2.625960e-04	1.787180e-03	-4.755770e-04	1.079960e-03	5.395640e-05	-5.360300e-02
cn2_44	-4.006410e-05	2.818080e-04	-6.298080e-05	1.549780e-04	2.333650e-06	-9.147560e-03
cn2_45	-7.519230e-05	5.286060e-04	-1.590710e-04	3.324740e-04	2.650740e-05	-9.469390e-03
cn2_46	-1.608970e-05	9.969870e-05	-2.262820e-05	6.065380e-05	7.285900e-06	-1.038090e-02
cn2_47	-4.192310e-05	6.441990e-04	-1.109620e-04	4.100540e-04	1.423650e-05	-6.313430e-02
cn2_r	-2.291770e-02	3.598770e-01	-6.506100e-02	2.558000e-01	1.825830e-02	-3.140290e+01

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
cncoef_r	-4.101150e-04	5.455590e-03	-8.441630e-04	9.193120e-03	2.713080e-04	6.289940e-03
dlai_frsd	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
dlai_frse	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
dlai_rnge	1.186900e-03	-3.504370e-04	1.020030e-03	-2.708050e-04	-2.198650e-04	1.376770e-02
dorm_hr_v	-1.825530e-04	1.049180e-05	-1.860070e-04	7.885700e-05	6.263550e-05	4.151240e-04
epco_01	3.176280e-05	1.496790e-06	4.935900e-06	1.474360e-07	9.779490e-06	-2.216600e-04
epco_02	7.211540e-06	4.903850e-07	1.137820e-05	-2.240390e-06	-8.036860e-06	-1.837180e-04
epco_03	4.942310e-05	-3.160260e-06	1.775640e-05	-7.339740e-06	2.709710e-05	-1.117950e-04
epco_04	-8.333330e-07	-1.282050e-07	1.250000e-06	-5.673080e-07	3.028850e-07	0.000000e+00
epco_05	1.482370e-04	1.538450e-06	2.431730e-04	-3.689420e-05	-1.644810e-05	-3.000670e-03
epco_06	2.892310e-04	1.095510e-05	3.596470e-04	-6.015070e-05	-8.037120e-05	-1.227990e-02
epco_07	4.823080e-04	-4.650320e-05	4.563460e-04	-5.983330e-05	-1.252050e-04	-2.060890e-03
epco_08	5.064100e-06	5.384620e-07	3.012820e-06	-7.788460e-07	-8.897430e-07	-2.701600e-05
epco_09	7.692310e-06	-2.073720e-06	3.012820e-06	-1.442310e-06	5.250000e-06	1.573400e-05
epco_10	-2.339740e-06	-1.615390e-06	-1.602570e-07	2.884620e-08	-6.326920e-07	3.477240e-05
epco_11	2.310900e-05	-3.682690e-06	4.608970e-05	-5.397440e-06	-5.583010e-06	9.785250e-05
epco_12	1.071790e-04	1.679810e-05	1.208970e-04	-1.356410e-05	-2.903240e-05	-6.090650e-03
epco_13	8.384620e-05	-1.075960e-05	9.814100e-05	-1.933010e-05	-4.690770e-05	3.330770e-04
epco_14	4.391030e-05	-2.439100e-06	1.788460e-05	-3.673080e-06	2.415830e-05	-2.685900e-05
epco_15	1.346150e-06	-9.294870e-08	1.923080e-07	3.141030e-07	4.113140e-06	0.000000e+00
epco_16	1.496800e-05	-6.826920e-07	1.025640e-05	-1.891030e-06	-8.878240e-08	-9.541670e-05
epco_17	1.009620e-05	5.641020e-07	7.756410e-06	-1.942310e-06	1.458810e-05	-3.141670e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
epco_18	1.783650e-04	-4.294870e-06	2.017950e-04	-3.019870e-05	-6.876730e-05	-5.962790e-03
epco_19	4.458330e-05	-4.285260e-06	4.032050e-05	-8.743590e-06	-8.645520e-06	1.169870e-05
epco_20	1.078210e-03	-1.459330e-04	1.102240e-03	-2.543040e-04	7.611700e-05	-6.869560e-03
epco_21	5.251280e-04	2.721790e-05	5.372120e-04	-7.825000e-05	3.491150e-05	-9.113960e-03
epco_22	9.251920e-04	-1.244100e-04	7.737500e-04	-1.666380e-04	8.532210e-05	-1.505100e-03
epco_23	1.400640e-05	-1.628200e-06	4.246790e-05	-1.081410e-05	1.798400e-06	8.538140e-05
epco_24	3.554490e-05	-3.817310e-06	5.759620e-05	-4.006410e-06	4.285900e-06	-8.367950e-05
epco_25	3.602560e-05	-1.233330e-05	5.875000e-05	-1.743590e-06	-9.584290e-06	3.029190e-03
epco_26	8.012820e-07	0.000000e+00	1.057690e-06	0.000000e+00	-9.634620e-07	0.000000e+00
epco_27	2.807690e-05	5.538460e-06	1.750000e-05	2.852570e-07	1.467560e-05	-3.683780e-04
epco_28	1.057690e-06	2.948720e-07	7.467950e-06	-4.294870e-07	-5.544860e-07	-1.025640e-05
epco_29	-3.205130e-07	0.000000e+00	1.923080e-07	-3.205130e-09	-1.205130e-06	0.000000e+00
epco_30	-1.282050e-07	-3.205130e-08	9.294870e-07	-3.205130e-09	-1.045830e-06	0.000000e+00
epco_31	8.782050e-06	7.467950e-07	1.185900e-06	-6.378200e-07	7.376600e-06	-7.371470e-05
epco_32	3.309290e-04	-3.128850e-05	4.223720e-04	-6.529170e-05	5.237500e-06	-2.413980e-03
epco_33	2.437180e-04	4.394230e-05	3.020190e-04	-2.683970e-05	-6.011630e-05	-1.367060e-02
epco_34	3.212180e-04	4.565710e-05	4.846470e-04	-8.058970e-05	-2.871480e-06	-1.859720e-02
epco_35	4.519230e-05	8.692310e-06	6.772440e-05	-7.663460e-06	7.878850e-06	-2.811680e-03
epco_36	1.865390e-05	1.512820e-06	3.227560e-05	-7.407050e-06	-1.230900e-05	-1.195580e-04
epco_37	1.076920e-05	-1.086540e-06	7.692310e-06	-1.971150e-06	8.531410e-06	6.556740e-05
epco_38	4.990380e-05	-2.499360e-05	9.147440e-05	-1.522760e-05	-2.440960e-05	6.070350e-04
epco_39	3.673080e-05	-4.346150e-06	2.012820e-05	-5.410260e-06	-6.592950e-06	1.547180e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
epco_40	2.333330e-05	-5.993590e-07	-5.929490e-06	-1.262820e-06	1.842310e-05	-2.025640e-05
epco_41	2.298080e-05	-1.147440e-05	-2.243590e-06	-1.471150e-06	2.560540e-05	4.407400e-04
epco_42	3.189100e-05	2.259620e-06	2.490380e-05	-8.141020e-07	5.255130e-06	3.100960e-05
epco_43	4.721150e-05	1.367630e-05	3.333330e-05	-7.227560e-06	2.968590e-06	-2.770060e-04
epco_44	1.137820e-05	3.589750e-07	3.910260e-06	-7.532050e-07	3.825960e-06	-7.571160e-05
epco_45	3.541670e-05	-1.144230e-06	1.012820e-05	-2.243590e-06	-1.386220e-06	7.685930e-06
epco_46	-1.089750e-06	1.592950e-06	3.493590e-06	-1.291670e-06	3.837180e-06	-8.271160e-05
epco_47	5.445510e-05	1.015380e-05	5.532050e-05	-3.195510e-06	-4.515060e-06	-1.405770e-05
epco_v	6.590160e-03	-2.847420e-04	6.917310e-03	-1.074240e-03	2.067590e-04	-7.809500e-02
esco_01	-9.794230e-04	-3.737180e-06	-8.904490e-04	6.721800e-05	6.086600e-05	6.215960e-03
esco_02	-2.281380e-03	1.870450e-04	-2.396350e-03	3.734970e-04	4.788750e-05	7.494570e-03
esco_03	-9.393330e-03	3.878400e-04	-1.003140e-02	1.281620e-03	3.733590e-04	5.149350e-02
esco_04	-4.216030e-04	3.614100e-05	-4.921470e-04	5.591020e-05	1.615800e-05	-1.257210e-03
esco_05	-4.938780e-03	7.490670e-04	-5.783490e-03	8.571510e-04	1.013090e-04	-1.450500e-02
esco_06	-6.156350e-03	4.363970e-04	-7.066510e-03	9.334490e-04	1.675050e-04	4.427100e-02
esco_07	-8.646190e-03	1.225920e-03	-1.008000e-02	1.543450e-03	3.455010e-04	6.853940e-03
esco_08	-1.560580e-04	2.169550e-05	-1.566990e-04	2.931090e-05	4.229550e-05	-9.669870e-04
esco_09	-3.555130e-04	3.956090e-05	-2.998720e-04	6.675000e-05	4.011120e-05	-1.553780e-03
esco_10	-9.349360e-05	1.194550e-05	-7.426280e-05	1.725000e-05	-2.385580e-05	-5.660260e-04
esco_11	-1.512120e-03	2.065960e-04	-1.633140e-03	2.416090e-04	5.083240e-05	-7.918530e-03
esco_12	-3.028590e-03	4.186510e-04	-3.587530e-03	4.761410e-04	6.301990e-05	-8.865960e-03
esco_13	-2.347950e-03	3.580550e-04	-2.658370e-03	4.289010e-04	1.386280e-04	-1.349030e-02

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
esco_14	-1.647080e-03	-1.537600e-04	-1.587080e-03	7.006730e-05	5.010160e-05	4.540340e-02
esco_15	-1.856090e-04	4.333330e-06	-2.022760e-04	1.525000e-05	2.367660e-05	1.648400e-04
esco_16	-5.244870e-04	3.791990e-05	-5.141350e-04	6.290380e-05	7.147120e-06	-1.717600e-03
esco_17	-3.362370e-03	1.953140e-04	-3.609040e-03	4.532370e-04	1.510210e-04	5.311090e-03
esco_18	-3.609370e-02	4.191860e-03	-3.649320e-02	6.418830e-03	-1.063630e-03	1.113300e-01
esco_19	-1.056280e-02	3.635420e-04	-1.165550e-02	1.387230e-03	4.783050e-04	7.133820e-02
esco_20	-2.781130e-02	5.486290e-03	-2.704250e-02	5.376380e-03	-2.246220e-03	-1.240410e-01
esco_21	-1.240500e-02	7.328080e-04	-1.357830e-02	1.461840e-03	5.028500e-04	1.164560e-01
esco_22	-1.983790e-02	3.508110e-03	-1.988080e-02	2.906470e-03	-1.750000e-03	-7.155150e-02
esco_23	-3.438880e-03	1.327790e-04	-3.054290e-03	4.767560e-04	9.648110e-05	6.553500e-03
esco_24	-5.767690e-03	1.232310e-04	-5.332950e-03	7.299680e-04	3.043560e-04	3.356100e-02
esco_25	-4.861730e-03	-2.869070e-04	-4.581510e-03	4.331540e-04	1.774090e-04	7.034540e-02
esco_26	-3.503210e-05	1.641030e-06	-4.445510e-05	3.394230e-06	2.064810e-05	2.051920e-04
esco_27	-3.191280e-03	2.694780e-04	-2.810580e-03	5.369330e-04	1.095070e-04	-5.259840e-03
esco_28	-1.429390e-03	-2.981730e-05	-1.319810e-03	1.235060e-04	6.116410e-05	6.103180e-03
esco_29	-4.326920e-06	2.564100e-07	-1.964740e-05	1.445510e-06	3.223720e-06	1.634620e-06
esco_30	-3.663460e-05	1.192310e-06	-3.233970e-05	1.916670e-06	3.381410e-06	-8.269230e-06
esco_31	-1.167310e-04	5.881410e-06	-8.278850e-05	9.512820e-06	-1.021350e-05	-1.318590e-04
esco_32	-1.827100e-02	1.822120e-03	-2.115210e-02	2.486040e-03	3.663330e-04	2.496960e-02
esco_33	-1.003030e-02	5.951960e-04	-1.178940e-02	1.151070e-03	4.069940e-04	3.196460e-02
esco_34	-1.539700e-02	1.068440e-03	-1.842660e-02	1.969540e-03	7.230140e-04	9.009070e-02
esco_35	-2.330000e-03	2.132150e-04	-2.606250e-03	2.842370e-04	1.331340e-04	-6.298690e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
esco_36	-1.141760e-03	-6.554500e-06	-1.221090e-03	1.113940e-04	9.176410e-05	9.103880e-03
esco_37	-3.016030e-04	4.223080e-05	-3.130130e-04	6.060580e-05	9.398400e-06	-1.103400e-03
esco_38	-1.037910e-02	8.938530e-04	-1.211850e-02	1.839710e-03	1.607990e-04	3.083260e-02
esco_39	-2.764130e-03	3.499580e-04	-3.138370e-03	4.777120e-04	1.068350e-04	-7.348850e-03
esco_40	-1.378080e-03	1.943620e-04	-1.539900e-03	2.623370e-04	2.808300e-05	-4.354260e-03
esco_41	-5.013780e-04	7.631730e-05	-4.775640e-04	9.555130e-05	1.343940e-05	-2.760100e-03
esco_42	-1.469520e-03	-3.019880e-05	-1.542500e-03	1.116510e-04	1.019520e-04	-1.472020e-03
esco_43	-1.725190e-03	1.920830e-05	-1.868690e-03	2.147660e-04	1.367620e-04	-2.284290e-03
esco_44	-2.362180e-04	1.581090e-05	-2.809290e-04	4.798080e-05	2.000540e-05	-7.717950e-04
esco_45	-6.083010e-04	4.503850e-05	-6.157050e-04	1.084780e-04	-5.885220e-05	-1.747980e-03
esco_46	-2.034940e-04	2.025960e-05	-2.161860e-04	2.491350e-05	5.400960e-06	-8.323720e-04
esco_47	-1.098170e-03	8.441030e-05	-1.186700e-03	9.329810e-05	2.991190e-05	-4.490900e-03
esco_v	-2.313400e-01	1.696280e-02	-2.530150e-01	2.640460e-02	-1.110900e-05	7.089610e-01
evrch_r	0.000000e+00	-1.140480e-04	0.000000e+00	-9.131540e-05	0.000000e+00	1.975650e-03
gw_delay_01	0.000000e+00	-4.423080e-06	0.000000e+00	-8.974360e-07	0.000000e+00	9.391030e-06
gw_delay_02	0.000000e+00	-2.051280e-06	0.000000e+00	-2.500000e-06	0.000000e+00	6.410260e-06
gw_delay_03	0.000000e+00	-2.230770e-05	0.000000e+00	-3.365380e-06	0.000000e+00	1.322440e-04
gw_delay_04	0.000000e+00	-6.666670e-06	0.000000e+00	-1.955130e-06	0.000000e+00	1.448720e-05
gw_delay_05	0.000000e+00	-9.721150e-05	0.000000e+00	-3.147440e-05	0.000000e+00	2.238780e-04
gw_delay_06	0.000000e+00	-1.684620e-04	0.000000e+00	-5.445510e-05	0.000000e+00	2.855770e-04
gw_delay_07	0.000000e+00	-2.143910e-04	0.000000e+00	-3.003200e-05	0.000000e+00	3.587500e-04
gw_delay_08	0.000000e+00	-1.634620e-06	0.000000e+00	-4.166670e-07	0.000000e+00	4.070510e-06

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gw_delay_09	0.000000e+00	-4.551280e-06	0.000000e+00	-6.089750e-07	0.000000e+00	1.179490e-05
gw_delay_10	0.000000e+00	-1.634620e-06	0.000000e+00	-4.487180e-07	0.000000e+00	4.551280e-06
gw_delay_11	0.000000e+00	-2.205130e-05	0.000000e+00	-5.320510e-06	0.000000e+00	4.038140e-04
gw_delay_12	0.000000e+00	-3.067310e-05	0.000000e+00	-1.887820e-05	0.000000e+00	5.810900e-05
gw_delay_13	0.000000e+00	-4.939100e-05	0.000000e+00	-8.237180e-06	0.000000e+00	1.370190e-04
gw_delay_14	0.000000e+00	-3.141030e-06	0.000000e+00	-3.237180e-06	0.000000e+00	9.615380e-05
gw_delay_15	0.000000e+00	-1.634620e-06	0.000000e+00	-4.487180e-07	0.000000e+00	5.448720e-05
gw_delay_16	0.000000e+00	-7.211540e-06	0.000000e+00	-1.955130e-06	0.000000e+00	6.807690e-05
gw_delay_17	0.000000e+00	-2.224360e-05	0.000000e+00	-7.083330e-06	0.000000e+00	3.384620e-05
gw_delay_18	0.000000e+00	-5.932690e-05	0.000000e+00	-9.807690e-06	0.000000e+00	4.133650e-04
gw_delay_19	0.000000e+00	-1.657050e-05	0.000000e+00	-1.487180e-05	0.000000e+00	3.849360e-05
gw_delay_20	0.000000e+00	-6.050000e-04	0.000000e+00	-6.951920e-05	0.000000e+00	1.085510e-03
gw_delay_21	0.000000e+00	-2.846150e-04	0.000000e+00	-9.852560e-05	0.000000e+00	7.357050e-04
gw_delay_22	0.000000e+00	-4.373400e-04	0.000000e+00	-6.096150e-05	0.000000e+00	9.113140e-04
gw_delay_23	0.000000e+00	-8.333330e-07	0.000000e+00	-6.858970e-06	0.000000e+00	0.000000e+00
gw_delay_24	0.000000e+00	-1.826920e-06	0.000000e+00	-1.125000e-05	0.000000e+00	3.461540e-06
gw_delay_25	0.000000e+00	0.000000e+00	0.000000e+00	-6.250000e-06	0.000000e+00	0.000000e+00
gw_delay_26	0.000000e+00	0.000000e+00	0.000000e+00	-6.410260e-08	0.000000e+00	3.205130e-08
gw_delay_27	0.000000e+00	-5.028850e-05	0.000000e+00	-1.583330e-05	0.000000e+00	8.599360e-05
gw_delay_28	0.000000e+00	-1.868590e-05	0.000000e+00	-5.993590e-06	0.000000e+00	3.923080e-05
gw_delay_29	0.000000e+00	-3.525640e-07	0.000000e+00	-1.282050e-07	0.000000e+00	2.564100e-07
gw_delay_30	0.000000e+00	-4.807690e-07	0.000000e+00	-1.923080e-07	0.000000e+00	8.974360e-07

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gw_delay_31	0.000000e+00	-1.474360e-06	0.000000e+00	-4.166670e-07	0.000000e+00	3.173080e-06
gw_delay_32	0.000000e+00	-5.698080e-04	0.000000e+00	-1.361860e-04	0.000000e+00	2.228110e-03
gw_delay_33	0.000000e+00	-3.087500e-04	0.000000e+00	-9.288460e-05	0.000000e+00	9.487180e-04
gw_delay_34	0.000000e+00	-4.070190e-04	0.000000e+00	-9.512820e-05	0.000000e+00	1.597600e-03
gw_delay_35	0.000000e+00	-5.439100e-05	0.000000e+00	-1.496800e-05	0.000000e+00	1.665060e-04
gw_delay_36	0.000000e+00	-1.121790e-06	0.000000e+00	-2.820510e-06	0.000000e+00	3.205130e-06
gw_delay_37	0.000000e+00	-5.512820e-06	0.000000e+00	-1.282050e-06	0.000000e+00	1.503210e-05
gw_delay_38	0.000000e+00	-9.294870e-06	0.000000e+00	-1.830130e-05	0.000000e+00	9.939100e-05
gw_delay_39	0.000000e+00	-3.798080e-05	0.000000e+00	-6.410260e-06	0.000000e+00	1.057370e-04
gw_delay_40	0.000000e+00	-1.618590e-05	0.000000e+00	-2.948720e-06	0.000000e+00	3.730770e-05
gw_delay_41	0.000000e+00	-6.794870e-06	0.000000e+00	-1.730770e-06	0.000000e+00	1.596150e-05
gw_delay_42	0.000000e+00	-6.410260e-08	0.000000e+00	-2.788460e-06	0.000000e+00	0.000000e+00
gw_delay_43	0.000000e+00	-1.282050e-07	0.000000e+00	-2.339740e-06	0.000000e+00	0.000000e+00
gw_delay_44	0.000000e+00	-4.134610e-06	0.000000e+00	-6.410260e-07	0.000000e+00	1.041670e-05
gw_delay_45	0.000000e+00	-1.128210e-05	0.000000e+00	-3.717950e-06	0.000000e+00	2.535260e-05
gw_delay_46	0.000000e+00	-4.166670e-07	0.000000e+00	-4.166670e-07	0.000000e+00	0.000000e+00
gw_delay_47	0.000000e+00	-3.628200e-05	0.000000e+00	-5.160260e-06	0.000000e+00	1.553200e-04
gw_delay_v	0.000000e+00	-1.853400e-05	0.000000e+00	-4.831200e-06	0.000000e+00	8.144830e-05
gw_revap_01	0.000000e+00	-6.217950e-06	0.000000e+00	-1.057690e-06	0.000000e+00	2.884620e-05
gw_revap_02	0.000000e+00	-7.980770e-06	0.000000e+00	-1.038460e-05	0.000000e+00	1.282050e-04
gw_revap_03	0.000000e+00	-2.368590e-05	0.000000e+00	-4.391030e-06	0.000000e+00	1.282050e-05
gw_revap_04	0.000000e+00	-1.291670e-05	0.000000e+00	-5.608970e-06	0.000000e+00	5.182690e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gw_revap_05	0.000000e+00	-6.430450e-04	0.000000e+00	-1.394550e-04	0.000000e+00	1.574520e-03
gw_revap_06	0.000000e+00	-1.564100e-05	0.000000e+00	-1.330130e-05	0.000000e+00	1.506410e-04
gw_revap_07	0.000000e+00	-9.297760e-04	0.000000e+00	-2.131730e-04	0.000000e+00	4.632980e-03
gw_revap_08	0.000000e+00	0.000000e+00	0.000000e+00	-3.205130e-08	0.000000e+00	0.000000e+00
gw_revap_09	0.000000e+00	-2.538460e-05	0.000000e+00	-1.153850e-06	0.000000e+00	1.523720e-04
gw_revap_10	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gw_revap_11	0.000000e+00	-2.275640e-05	0.000000e+00	-6.314100e-06	0.000000e+00	1.478850e-04
gw_revap_12	0.000000e+00	-6.993590e-05	0.000000e+00	-1.442310e-05	0.000000e+00	4.113460e-04
gw_revap_13	0.000000e+00	-2.133650e-04	0.000000e+00	-5.086540e-05	0.000000e+00	9.847430e-04
gw_revap_14	0.000000e+00	-1.026600e-04	0.000000e+00	-8.910260e-06	0.000000e+00	3.626920e-04
gw_revap_15	0.000000e+00	-1.429490e-05	0.000000e+00	-7.692310e-07	0.000000e+00	6.487180e-05
gw_revap_16	0.000000e+00	-6.089740e-07	0.000000e+00	-4.487180e-07	0.000000e+00	0.000000e+00
gw_revap_17	0.000000e+00	0.000000e+00	0.000000e+00	-1.153850e-06	0.000000e+00	0.000000e+00
gw_revap_18	0.000000e+00	-6.573720e-05	0.000000e+00	-9.006410e-06	0.000000e+00	6.059940e-04
gw_revap_19	0.000000e+00	-3.489420e-04	0.000000e+00	-5.721150e-05	0.000000e+00	1.056380e-03
gw_revap_20	0.000000e+00	-2.644780e-03	0.000000e+00	-2.312820e-04	0.000000e+00	1.103570e-02
gw_revap_21	0.000000e+00	-4.025640e-05	0.000000e+00	-2.083330e-05	0.000000e+00	5.320510e-04
gw_revap_22	0.000000e+00	-1.914870e-03	0.000000e+00	-5.069230e-04	0.000000e+00	1.244480e-02
gw_revap_23	0.000000e+00	-2.120510e-04	0.000000e+00	-3.211540e-05	0.000000e+00	1.269290e-03
gw_revap_24	0.000000e+00	-3.298720e-04	0.000000e+00	-1.039740e-04	0.000000e+00	1.375100e-03
gw_revap_25	0.000000e+00	-8.519230e-05	0.000000e+00	-3.621790e-05	0.000000e+00	2.872120e-04
gw_revap_26	0.000000e+00	-6.730770e-07	0.000000e+00	0.000000e+00	0.000000e+00	6.442310e-06

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gw_revap_27	0.000000e+00	-1.635900e-04	0.000000e+00	-6.817310e-05	0.000000e+00	9.538140e-04
gw_revap_28	0.000000e+00	0.000000e+00	0.000000e+00	-7.371790e-07	0.000000e+00	0.000000e+00
gw_revap_29	0.000000e+00	-3.205130e-08	0.000000e+00	-3.205130e-08	0.000000e+00	0.000000e+00
gw_revap_30	0.000000e+00	-2.467950e-06	0.000000e+00	-1.025640e-06	0.000000e+00	9.935900e-06
gw_revap_31	0.000000e+00	-3.846150e-07	0.000000e+00	-1.923080e-07	0.000000e+00	0.000000e+00
gw_revap_32	0.000000e+00	-1.094970e-03	0.000000e+00	-6.452880e-04	0.000000e+00	5.264840e-03
gw_revap_33	0.000000e+00	-1.256730e-04	0.000000e+00	-1.958330e-05	0.000000e+00	4.711540e-04
gw_revap_34	0.000000e+00	-3.482370e-04	0.000000e+00	-4.432690e-05	0.000000e+00	4.160260e-03
gw_revap_35	0.000000e+00	-2.342950e-05	0.000000e+00	-2.884620e-06	0.000000e+00	2.916670e-04
gw_revap_36	0.000000e+00	-1.162500e-04	0.000000e+00	-6.250000e-06	0.000000e+00	7.976600e-04
gw_revap_37	0.000000e+00	-9.615390e-07	0.000000e+00	-4.166670e-07	0.000000e+00	0.000000e+00
gw_revap_38	0.000000e+00	-3.688140e-04	0.000000e+00	-5.371790e-05	0.000000e+00	1.771350e-03
gw_revap_39	0.000000e+00	-1.755770e-04	0.000000e+00	-4.269230e-05	0.000000e+00	4.796150e-04
gw_revap_40	0.000000e+00	-9.086540e-05	0.000000e+00	-1.217950e-05	0.000000e+00	3.124680e-04
gw_revap_41	0.000000e+00	0.000000e+00	0.000000e+00	-1.602560e-07	0.000000e+00	0.000000e+00
gw_revap_42	0.000000e+00	-1.094550e-04	0.000000e+00	-7.756410e-06	0.000000e+00	4.803850e-04
gw_revap_43	0.000000e+00	-2.564100e-07	0.000000e+00	-1.500000e-05	0.000000e+00	0.000000e+00
gw_revap_44	0.000000e+00	-2.391030e-05	0.000000e+00	-2.051280e-06	0.000000e+00	1.468910e-04
gw_revap_45	0.000000e+00	0.000000e+00	0.000000e+00	-6.410260e-08	0.000000e+00	0.000000e+00
gw_revap_46	0.000000e+00	-1.410260e-06	0.000000e+00	-1.153850e-06	0.000000e+00	6.730770e-06
gw_revap_47	0.000000e+00	-4.649650e-04	0.000000e+00	-4.492340e-04	0.000000e+00	9.741350e-04
gw_revap_v	0.000000e+00	-3.647600e-02	0.000000e+00	-2.927460e-02	0.000000e+00	1.150940e-01

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gwqmn_01	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_02	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_03	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_04	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_05	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_06	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_07	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_08	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_09	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_10	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_11	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_12	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_13	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_14	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_15	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_16	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_17	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_18	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_19	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_20	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_21	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_22	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gwqmn_23	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_24	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_25	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_26	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_27	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_28	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_29	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_30	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_31	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_32	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_33	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_34	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_35	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_36	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_37	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_38	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_39	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_40	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_41	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_42	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_43	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_44	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
gwqmn_45	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_46	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_47	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
gwqmn_v	0.000000e+00	-8.233070e-06	0.000000e+00	-5.210440e-06	0.000000e+00	2.431620e-05
hru_slp_01	-1.804490e-05	7.012180e-05	-3.092950e-05	5.400320e-05	9.832050e-06	-4.365510e-03
hru_slp_02	-5.560900e-05	2.339360e-04	-6.987180e-05	1.677310e-04	1.608970e-07	-6.664520e-03
hru_slp_03	-5.533330e-04	1.449840e-03	-7.909620e-04	1.066410e-03	8.740350e-05	-2.279940e-02
hru_slp_04	-3.141030e-06	1.396790e-05	-2.115380e-06	7.711540e-06	-5.019230e-07	-1.415380e-04
hru_slp_05	-1.200640e-04	5.104040e-04	-1.617950e-04	3.970770e-04	-9.238140e-06	-6.576320e-03
hru_slp_06	-1.987180e-05	1.091030e-04	-3.397440e-05	8.329810e-05	-1.628530e-06	-1.618270e-03
hru_slp_07	-2.721150e-05	2.537630e-04	-3.666670e-05	1.628880e-04	-1.770580e-05	-5.446920e-03
hru_slp_08	-1.602560e-07	1.394230e-06	-1.602560e-07	5.865390e-07	-1.540710e-06	-3.782050e-06
hru_slp_09	-5.128200e-06	4.362180e-06	-1.634620e-06	4.349360e-06	-1.847120e-06	1.074680e-04
hru_slp_10	0.000000e+00	6.602560e-07	-9.615390e-08	6.314100e-07	-5.769230e-08	-1.250000e-06
hru_slp_11	-1.833330e-05	1.098970e-04	-2.009620e-05	9.588780e-05	-2.915380e-06	-1.134940e-03
hru_slp_12	-9.060900e-05	4.869710e-04	-1.179810e-04	3.809970e-04	-1.504290e-05	-8.873300e-03
hru_slp_13	-1.423080e-04	6.944390e-04	-1.941350e-04	5.568780e-04	1.685930e-05	-1.495840e-02
hru_slp_14	-1.586540e-05	9.423080e-05	-3.134620e-05	6.782050e-05	3.361540e-06	-1.104360e-03
hru_slp_15	-8.333330e-07	1.858970e-05	-5.608970e-06	1.219230e-05	-6.439110e-07	-3.168910e-04
hru_slp_16	-2.525640e-05	9.309940e-05	-3.448720e-05	6.960580e-05	-4.645190e-06	-1.516470e-03
hru_slp_17	-4.080130e-05	2.189620e-04	-7.807690e-05	1.675190e-04	1.798210e-05	-2.265480e-03
hru_slp_18	-1.908210e-03	5.112950e-03	-3.059900e-03	3.655670e-03	3.353530e-04	-1.183280e-01

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
hru_slp_19	-1.436220e-04	7.332240e-04	-2.181410e-04	5.622850e-04	-4.083170e-05	-8.516350e-03
hru_slp_20	-1.107690e-04	3.593210e-04	-1.183970e-04	2.698690e-04	-8.077570e-06	-4.934100e-03
hru_slp_21	-2.344230e-04	1.185600e-03	-2.929170e-04	9.149360e-04	2.539260e-05	-1.821250e-02
hru_slp_22	-5.817310e-05	3.806440e-04	-7.945510e-05	2.431510e-04	8.323390e-06	-3.954040e-03
hru_slp_23	-1.310900e-05	1.547760e-05	-4.679490e-06	1.361860e-05	-7.205120e-07	1.474380e-06
hru_slp_24	-2.852560e-05	6.227240e-05	-3.096150e-05	4.525000e-05	6.551930e-06	-1.758970e-04
hru_slp_25	-4.567310e-05	1.351250e-04	-5.506410e-05	1.102760e-04	8.866030e-06	-1.076380e-03
hru_slp_26	0.000000e+00	6.923080e-07	-8.653850e-07	6.025640e-07	9.028850e-07	-5.128200e-06
hru_slp_27	-1.836540e-05	9.010900e-05	-3.320510e-05	5.802560e-05	-2.003850e-06	-1.255030e-03
hru_slp_28	-1.057690e-06	1.689420e-05	-6.955130e-06	1.087820e-05	4.546150e-06	-2.098080e-04
hru_slp_29	0.000000e+00	2.564100e-07	0.000000e+00	5.160260e-07	0.000000e+00	-2.884620e-07
hru_slp_30	0.000000e+00	1.560900e-06	-9.615380e-08	1.833330e-06	9.615380e-08	-5.769230e-06
hru_slp_31	-4.038460e-06	2.481730e-05	-7.564100e-06	2.290380e-05	4.818590e-06	-3.232370e-04
hru_slp_32	-5.709300e-04	3.108200e-03	-7.276600e-04	2.150070e-03	7.410260e-05	-6.242400e-02
hru_slp_33	-2.472760e-04	1.295620e-03	-3.442310e-04	9.902950e-04	1.831540e-05	-3.037270e-02
hru_slp_34	-7.402880e-04	4.536030e-03	-1.109900e-03	3.565250e-03	1.413200e-05	-1.175720e-01
hru_slp_35	-6.740390e-05	2.098490e-04	-9.044870e-05	1.428750e-04	2.584620e-06	-1.961280e-03
hru_slp_36	-3.256410e-05	8.426280e-05	-3.189100e-05	5.675320e-05	-6.134610e-06	-9.209290e-04
hru_slp_37	-2.208330e-05	6.529490e-05	-4.490380e-05	4.290380e-05	1.204970e-05	-1.020160e-03
hru_slp_38	-9.057370e-04	2.153020e-03	-1.207530e-03	1.645670e-03	4.381350e-05	-4.657280e-02
hru_slp_39	-9.461540e-05	2.173690e-04	-8.583330e-05	1.709740e-04	-1.106150e-05	-2.758750e-03
hru_slp_40	-2.070510e-05	7.865380e-05	-3.237180e-05	5.729170e-05	6.033330e-06	-1.020540e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
hru_slp_41	-8.108970e-06	1.628850e-05	-6.506410e-06	9.782050e-06	-4.271150e-06	-2.679810e-04
hru_slp_42	-5.384620e-06	1.418590e-05	-8.814100e-06	1.200640e-05	1.832370e-06	-1.890710e-04
hru_slp_43	-2.500000e-06	1.336220e-05	-3.589740e-06	9.240380e-06	-3.590060e-06	-2.230130e-04
hru_slp_44	-1.602560e-07	1.666670e-06	-9.615380e-08	1.003210e-06	-8.012820e-08	-2.532050e-06
hru_slp_45	-6.089740e-07	5.323720e-06	-2.051280e-06	6.333330e-06	-1.082050e-06	-5.125000e-05
hru_slp_46	-6.025640e-06	2.908330e-05	-3.653850e-06	1.471470e-05	-6.043590e-06	-4.086990e-03
hru_slp_47	-1.506410e-05	1.844040e-04	-1.996800e-05	1.250190e-04	-7.447760e-06	-1.546550e-02
hru_slp_r	-7.414980e-03	2.625740e-02	-1.055380e-02	1.931660e-02	1.020430e-03	-5.664000e-01
ov_n_01	0.000000e+00	5.801280e-07	0.000000e+00	-4.551280e-07	0.000000e+00	-8.333330e-06
ov_n_02	0.000000e+00	-3.000000e-06	0.000000e+00	-2.275640e-06	0.000000e+00	2.233650e-04
ov_n_03	0.000000e+00	-1.983970e-06	0.000000e+00	-2.371790e-06	0.000000e+00	1.557370e-04
ov_n_04	0.000000e+00	-9.775640e-07	0.000000e+00	-1.548080e-06	0.000000e+00	5.022440e-05
ov_n_05	0.000000e+00	-8.237180e-07	0.000000e+00	9.519230e-07	0.000000e+00	2.602920e-04
ov_n_06	0.000000e+00	-4.631410e-06	-9.615380e-08	5.128200e-07	9.615380e-08	4.316470e-04
ov_n_07	0.000000e+00	1.054490e-06	-9.615380e-08	-2.756410e-06	9.615380e-08	8.996480e-05
ov_n_08	0.000000e+00	-1.538460e-06	0.000000e+00	2.884620e-07	0.000000e+00	2.660260e-05
ov_n_09	0.000000e+00	-1.618590e-06	0.000000e+00	5.608980e-07	-9.615380e-09	2.548080e-05
ov_n_10	0.000000e+00	3.205120e-09	0.000000e+00	1.987180e-07	-9.615380e-09	0.000000e+00
ov_n_11	0.000000e+00	8.653850e-07	0.000000e+00	-2.756410e-07	0.000000e+00	3.557690e-05
ov_n_12	0.000000e+00	1.423080e-06	0.000000e+00	-5.416670e-07	0.000000e+00	2.147440e-05
ov_n_13	0.000000e+00	-4.198720e-06	0.000000e+00	-5.000000e-07	0.000000e+00	2.352560e-04
ov_n_14	0.000000e+00	-9.935900e-07	0.000000e+00	-1.403850e-06	0.000000e+00	7.051280e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
ov_n_15	0.000000e+00	0.000000e+00	0.000000e+00	-7.692310e-08	0.000000e+00	0.000000e+00
ov_n_16	0.000000e+00	0.000000e+00	0.000000e+00	-3.653850e-07	0.000000e+00	0.000000e+00
ov_n_17	0.000000e+00	2.115390e-07	0.000000e+00	1.525640e-06	0.000000e+00	-1.141030e-05
ov_n_18	0.000000e+00	-9.615390e-07	0.000000e+00	2.483970e-06	0.000000e+00	1.282050e-04
ov_n_19	0.000000e+00	6.506410e-07	0.000000e+00	2.592950e-06	0.000000e+00	1.078750e-04
ov_n_20	0.000000e+00	-1.563780e-05	-8.974360e-07	-1.661860e-05	9.647430e-07	1.883520e-03
ov_n_21	0.000000e+00	-2.189100e-06	0.000000e+00	7.307690e-07	0.000000e+00	1.214520e-04
ov_n_22	0.000000e+00	-8.044870e-06	-7.371790e-07	-9.243590e-06	9.615380e-07	5.592310e-04
ov_n_23	0.000000e+00	-8.448720e-06	0.000000e+00	-1.048080e-06	9.615380e-09	3.955510e-03
ov_n_24	0.000000e+00	-1.295510e-05	0.000000e+00	2.410260e-06	0.000000e+00	4.341450e-03
ov_n_25	0.000000e+00	-1.814100e-06	0.000000e+00	-1.387820e-06	-9.615380e-09	1.399780e-04
ov_n_26	0.000000e+00	0.000000e+00	0.000000e+00	3.205120e-08	0.000000e+00	0.000000e+00
ov_n_27	0.000000e+00	7.852560e-07	0.000000e+00	-2.147440e-07	0.000000e+00	3.118590e-05
ov_n_28	0.000000e+00	1.541670e-06	0.000000e+00	2.506410e-06	0.000000e+00	-6.483980e-05
ov_n_29	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
ov_n_30	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
ov_n_31	0.000000e+00	0.000000e+00	0.000000e+00	8.621790e-07	0.000000e+00	0.000000e+00
ov_n_32	0.000000e+00	-6.634610e-06	0.000000e+00	2.051280e-07	0.000000e+00	4.073140e-03
ov_n_33	0.000000e+00	-4.967950e-06	0.000000e+00	4.775650e-07	0.000000e+00	5.621800e-04
ov_n_34	0.000000e+00	8.974360e-06	0.000000e+00	1.634610e-07	0.000000e+00	-3.353530e-03
ov_n_35	0.000000e+00	5.929500e-07	0.000000e+00	5.064100e-07	7.980770e-07	5.804490e-05
ov_n_36	0.000000e+00	1.070510e-06	0.000000e+00	6.282050e-07	0.000000e+00	1.241350e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
ov_n_37	0.000000e+00	7.724360e-07	0.000000e+00	1.493590e-06	-8.012820e-08	-1.282050e-05
ov_n_38	0.000000e+00	-2.676280e-06	9.615380e-08	7.500000e-07	1.621790e-06	2.253850e-04
ov_n_39	0.000000e+00	-9.935840e-08	0.000000e+00	5.769230e-07	-7.692310e-08	1.964740e-05
ov_n_40	0.000000e+00	-2.830130e-06	-6.410260e-08	-1.038460e-06	9.935900e-08	2.094330e-04
ov_n_41	-1.602560e-07	-9.967950e-07	0.000000e+00	1.455130e-06	0.000000e+00	1.050640e-05
ov_n_42	0.000000e+00	-1.762820e-06	0.000000e+00	-4.391020e-07	-1.634620e-07	6.351280e-05
ov_n_43	0.000000e+00	-2.733970e-06	6.410260e-08	-1.163460e-06	7.525640e-07	1.736540e-04
ov_n_44	0.000000e+00	-2.429490e-06	0.000000e+00	1.676280e-06	-9.615380e-09	5.150640e-05
ov_n_45	0.000000e+00	-2.179490e-06	-6.410250e-08	6.089750e-08	9.615380e-08	8.612180e-05
ov_n_46	0.000000e+00	-1.987180e-07	0.000000e+00	2.628200e-07	0.000000e+00	3.205130e-06
ov_n_47	0.000000e+00	-6.575000e-05	0.000000e+00	-9.239100e-05	0.000000e+00	1.794440e-02
ov_n_r	3.750000e-07	-1.107480e-04	-5.288460e-07	-1.109850e-04	-7.875000e-08	2.042830e-02
pcp_0_2001	7.878610e-04	3.050720e-05	0.000000e+00	0.000000e+00	6.418270e-08	-4.031320e-03
pcp_0_2002	-4.499280e-04	-3.208270e-04	0.000000e+00	0.000000e+00	-2.403850e-09	-7.658050e-02
pcp_0_2003	-1.855050e-04	-6.163990e-04	0.000000e+00	0.000000e+00	6.009610e-08	-5.061480e-03
pcp_0_2004	0.000000e+00	0.000000e+00	6.437500e-05	8.718510e-05	-1.951300e-05	0.000000e+00
pcp_0_2005	0.000000e+00	0.000000e+00	1.114420e-04	-7.024760e-05	-8.511300e-06	0.000000e+00
pcp_0_2006	0.000000e+00	0.000000e+00	-9.237980e-05	-2.811080e-04	3.478240e-04	0.000000e+00
pcp_0_2007	0.000000e+00	0.000000e+00	-5.045580e-03	8.333290e-04	2.994820e-04	0.000000e+00
pcp_0_2008	0.000000e+00	0.000000e+00	1.478170e-03	-4.284830e-04	3.276260e-04	0.000000e+00
pcp_0_2009	0.000000e+00	0.000000e+00	-3.500290e-03	-7.867810e-06	-2.936100e-04	0.000000e+00
pcp_0_2010	0.000000e+00	0.000000e+00	-3.422980e-03	-1.359300e-04	-2.666740e-04	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
pcp_1_2001	1.184500e-03	4.524280e-05	0.000000e+00	0.000000e+00	1.370190e-07	-9.989600e-04
pcp_1_2002	-2.260790e-03	-3.435380e-04	0.000000e+00	0.000000e+00	-6.009620e-08	-5.402840e-02
pcp_1_2003	2.175120e-03	-2.043450e-03	0.000000e+00	0.000000e+00	2.403900e-09	-5.333410e-03
pcp_1_2004	0.000000e+00	0.000000e+00	-1.009620e-06	1.104570e-05	1.229330e-06	0.000000e+00
pcp_1_2005	0.000000e+00	0.000000e+00	-2.708940e-03	6.182450e-05	-6.985090e-06	0.000000e+00
pcp_1_2006	0.000000e+00	0.000000e+00	-1.396390e-04	9.936780e-05	-4.820460e-05	0.000000e+00
pcp_1_2007	0.000000e+00	0.000000e+00	3.691590e-04	-1.255890e-04	2.035590e-04	0.000000e+00
pcp_1_2008	0.000000e+00	0.000000e+00	4.563700e-04	-3.532210e-05	5.358750e-05	0.000000e+00
pcp_1_2009	0.000000e+00	0.000000e+00	2.923080e-05	-1.654090e-05	1.508200e-05	0.000000e+00
pcp_1_2010	0.000000e+00	0.000000e+00	-6.869230e-04	6.028610e-05	3.113750e-05	0.000000e+00
pcp_2_2001	4.049860e-03	1.841490e-04	0.000000e+00	0.000000e+00	-1.265140e-06	-6.931440e-03
pcp_2_2002	-4.288390e-02	-9.009350e-04	0.000000e+00	0.000000e+00	-1.009620e-06	-9.238230e-01
pcp_2_2003	-1.500790e-02	-5.834030e-03	0.000000e+00	0.000000e+00	3.269230e-07	-9.939640e-02
pcp_2_2004	0.000000e+00	0.000000e+00	1.655290e-04	5.554880e-04	-2.051950e-05	0.000000e+00
pcp_2_2005	0.000000e+00	0.000000e+00	-8.112040e-03	7.660870e-04	-5.193580e-04	0.000000e+00
pcp_2_2006	0.000000e+00	0.000000e+00	-4.289900e-03	1.061180e-03	8.210900e-05	0.000000e+00
pcp_2_2007	0.000000e+00	0.000000e+00	-2.485160e-02	2.818910e-03	-3.107620e-04	0.000000e+00
pcp_2_2008	0.000000e+00	0.000000e+00	7.399280e-04	-3.919010e-04	5.834690e-04	0.000000e+00
pcp_2_2009	0.000000e+00	0.000000e+00	-1.244600e-02	8.158800e-04	-6.182750e-04	0.000000e+00
pcp_2_2010	0.000000e+00	0.000000e+00	-2.016920e-02	1.131580e-03	-1.210060e-03	0.000000e+00
pcp_3_2001	1.008550e-02	3.668220e-04	0.000000e+00	0.000000e+00	-4.128370e-06	-1.738400e-02
pcp_3_2002	-2.774650e-01	1.452910e-01	0.000000e+00	0.000000e+00	4.731250e-06	-2.732110e+01

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
pcp_3_2003	-8.496690e-02	1.643250e-02	0.000000e+00	0.000000e+00	1.377400e-06	-1.471750e+00
pcp_3_2004	0.000000e+00	0.000000e+00	2.904330e-04	2.393360e-03	-3.933920e-05	0.000000e+00
pcp_3_2005	0.000000e+00	0.000000e+00	-3.825400e-02	1.881270e-02	-2.172020e-03	0.000000e+00
pcp_3_2006	0.000000e+00	0.000000e+00	-4.691180e-02	3.246010e-02	-3.436850e-03	0.000000e+00
pcp_3_2007	0.000000e+00	0.000000e+00	-1.430380e-01	6.356420e-02	-1.318280e-03	0.000000e+00
pcp_3_2008	0.000000e+00	0.000000e+00	-2.270850e-02	1.213220e-02	1.383100e-04	0.000000e+00
pcp_3_2009	0.000000e+00	0.000000e+00	-6.640870e-02	2.508880e-02	-4.035160e-03	0.000000e+00
pcp_3_2010	0.000000e+00	0.000000e+00	-7.135220e-02	2.454520e-02	-3.961940e-03	0.000000e+00
rchrg_dp_01	0.000000e+00	-1.487180e-05	0.000000e+00	-1.266030e-05	0.000000e+00	7.051280e-05
rchrg_dp_02	0.000000e+00	-2.612180e-05	0.000000e+00	-2.282050e-05	0.000000e+00	2.884610e-05
rchrg_dp_03	0.000000e+00	-1.093590e-04	0.000000e+00	-1.054810e-04	0.000000e+00	2.371790e-04
rchrg_dp_04	0.000000e+00	-4.583330e-06	0.000000e+00	-1.154490e-05	0.000000e+00	6.410260e-06
rchrg_dp_05	0.000000e+00	-1.195510e-04	0.000000e+00	-2.048110e-04	0.000000e+00	3.173080e-04
rchrg_dp_06	0.000000e+00	-1.442310e-04	0.000000e+00	-2.514010e-04	0.000000e+00	3.750000e-04
rchrg_dp_07	0.000000e+00	-1.623720e-04	0.000000e+00	-3.185220e-04	0.000000e+00	5.032050e-04
rchrg_dp_08	0.000000e+00	-1.762820e-06	0.000000e+00	-9.294870e-07	0.000000e+00	3.525640e-05
rchrg_dp_09	0.000000e+00	-2.339740e-06	0.000000e+00	-3.012820e-06	0.000000e+00	0.000000e+00
rchrg_dp_10	0.000000e+00	-5.128200e-07	0.000000e+00	-7.371790e-07	0.000000e+00	0.000000e+00
rchrg_dp_11	0.000000e+00	-3.535260e-05	0.000000e+00	-6.676280e-05	0.000000e+00	2.532050e-04
rchrg_dp_12	0.000000e+00	-1.361120e-04	0.000000e+00	-1.717600e-04	0.000000e+00	5.459300e-04
rchrg_dp_13	0.000000e+00	-7.673080e-05	0.000000e+00	-1.626920e-04	0.000000e+00	3.333330e-04
rchrg_dp_14	0.000000e+00	-1.945510e-05	0.000000e+00	-4.316670e-05	0.000000e+00	9.935900e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
rchrg_dp_15	0.000000e+00	-1.987180e-06	0.000000e+00	-1.891030e-06	0.000000e+00	3.205130e-06
rchrg_dp_16	0.000000e+00	-5.544870e-06	0.000000e+00	-4.679490e-06	0.000000e+00	6.410260e-06
rchrg_dp_17	0.000000e+00	-3.519230e-05	0.000000e+00	-3.060900e-05	0.000000e+00	1.185900e-04
rchrg_dp_18	0.000000e+00	-2.983010e-04	0.000000e+00	-1.477560e-04	0.000000e+00	1.105770e-03
rchrg_dp_19	0.000000e+00	-7.227560e-05	0.000000e+00	-5.528840e-05	0.000000e+00	3.653850e-04
rchrg_dp_20	0.000000e+00	-5.268910e-04	0.000000e+00	-3.336540e-04	0.000000e+00	1.634610e-03
rchrg_dp_21	0.000000e+00	-2.958010e-04	0.000000e+00	-6.241730e-04	0.000000e+00	8.076920e-04
rchrg_dp_22	0.000000e+00	-4.893970e-04	0.000000e+00	-7.195380e-04	0.000000e+00	1.089010e-03
rchrg_dp_23	0.000000e+00	-2.108970e-05	0.000000e+00	-2.227560e-05	0.000000e+00	8.333330e-05
rchrg_dp_24	0.000000e+00	-3.849360e-05	0.000000e+00	-1.305800e-04	0.000000e+00	9.935890e-05
rchrg_dp_25	0.000000e+00	-2.855770e-05	0.000000e+00	-3.134620e-05	0.000000e+00	8.333330e-05
rchrg_dp_26	0.000000e+00	-3.205130e-07	0.000000e+00	-6.250000e-07	0.000000e+00	0.000000e+00
rchrg_dp_27	0.000000e+00	-1.772440e-05	0.000000e+00	-6.060900e-05	0.000000e+00	1.602560e-05
rchrg_dp_28	0.000000e+00	-1.112180e-05	0.000000e+00	-1.125000e-05	0.000000e+00	6.730770e-05
rchrg_dp_29	0.000000e+00	-2.564100e-07	0.000000e+00	-9.134610e-07	0.000000e+00	0.000000e+00
rchrg_dp_30	0.000000e+00	-7.051280e-07	0.000000e+00	-5.115390e-06	0.000000e+00	0.000000e+00
rchrg_dp_31	0.000000e+00	-2.948720e-06	0.000000e+00	-2.596150e-06	0.000000e+00	6.410260e-06
rchrg_dp_32	0.000000e+00	-8.306120e-04	0.000000e+00	-7.912400e-04	0.000000e+00	1.642050e-03
rchrg_dp_33	0.000000e+00	-3.501920e-04	0.000000e+00	-6.240870e-04	0.000000e+00	1.121790e-03
rchrg_dp_34	0.000000e+00	-5.901920e-04	0.000000e+00	-9.830510e-04	0.000000e+00	1.740390e-03
rchrg_dp_35	0.000000e+00	-2.467950e-05	0.000000e+00	-6.374360e-05	0.000000e+00	9.615380e-05
rchrg_dp_36	0.000000e+00	-1.246790e-05	0.000000e+00	-6.634610e-06	0.000000e+00	5.128200e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
rchrg_dp_37	0.000000e+00	-3.429490e-06	0.000000e+00	-1.153850e-06	0.000000e+00	1.153850e-04
rchrg_dp_38	0.000000e+00	-1.091350e-04	0.000000e+00	-2.198910e-04	0.000000e+00	4.198720e-04
rchrg_dp_39	0.000000e+00	-2.339740e-05	0.000000e+00	-1.272440e-05	0.000000e+00	1.153850e-04
rchrg_dp_40	0.000000e+00	-1.336540e-05	0.000000e+00	-9.679490e-06	0.000000e+00	1.602560e-05
rchrg_dp_41	0.000000e+00	-2.243590e-06	0.000000e+00	-2.019230e-06	0.000000e+00	0.000000e+00
rchrg_dp_42	0.000000e+00	-3.461540e-06	0.000000e+00	-2.884620e-06	0.000000e+00	3.205130e-06
rchrg_dp_43	0.000000e+00	-4.358980e-06	0.000000e+00	-3.493590e-06	0.000000e+00	6.410260e-06
rchrg_dp_44	0.000000e+00	-8.653840e-07	0.000000e+00	-8.974360e-07	0.000000e+00	0.000000e+00
rchrg_dp_45	0.000000e+00	-2.692310e-06	0.000000e+00	-2.435900e-06	0.000000e+00	6.410260e-06
rchrg_dp_46	0.000000e+00	-5.865380e-06	0.000000e+00	-5.641020e-06	0.000000e+00	6.410260e-06
rchrg_dp_47	0.000000e+00	-3.016030e-05	0.000000e+00	-7.212820e-05	0.000000e+00	5.448720e-05
rchrg_dp_v	0.000000e+00	-7.411880e-03	0.000000e+00	-1.811860e-02	0.000000e+00	2.524050e-02
revapmn_01	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_02	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_03	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_04	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_05	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_06	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_07	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_08	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_09	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_10	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
revapmn_11	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_12	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_13	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_14	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_15	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_16	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_17	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_18	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_19	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_20	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_21	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_22	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_23	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_24	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_25	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_26	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_27	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_28	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_29	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_30	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_31	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_32	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
revapmn_33	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_34	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_35	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_36	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_37	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_38	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_39	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_40	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_41	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_42	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_43	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_44	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_45	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_46	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_47	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
revapmn_v	0.000000e+00	1.655140e-06	0.000000e+00	1.172300e-06	0.000000e+00	-1.487180e-05
slsubbsn_01	1.397440e-05	-6.573400e-05	2.637820e-05	-6.095830e-05	-8.009610e-07	4.959290e-04
slsubbsn_02	5.115380e-05	-2.420540e-04	8.185900e-05	-2.023270e-04	-1.006730e-05	1.946700e-03
slsubbsn_03	8.707690e-04	-2.306310e-03	1.018400e-03	-1.967670e-03	-6.207370e-05	5.801760e-02
slsubbsn_04	3.205130e-07	-1.291350e-05	4.871800e-06	-7.375000e-06	-3.348400e-06	1.452880e-04
slsubbsn_05	1.426600e-04	-5.394490e-04	1.647440e-04	-4.436990e-04	-4.287720e-05	6.896320e-03
slsubbsn_06	2.083330e-05	-1.062150e-04	3.067310e-05	-7.760580e-05	-9.903850e-06	1.247470e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
slsubbsn_07	3.314100e-05	-2.657020e-04	4.301280e-05	-1.499330e-04	-1.923650e-09	4.755990e-03
slsubbsn_08	1.602560e-07	-3.387820e-06	1.282050e-07	-2.032050e-06	9.121800e-07	4.121790e-05
slsubbsn_09	2.243590e-06	-9.923080e-06	4.871800e-06	-7.230770e-06	-6.650640e-07	1.031730e-04
slsubbsn_10	0.000000e+00	-2.073720e-06	0.000000e+00	-4.935900e-07	8.557690e-08	9.692310e-05
slsubbsn_11	1.900640e-05	-1.554260e-04	3.599360e-05	-1.314810e-04	-7.038460e-06	3.726990e-03
slsubbsn_12	1.130450e-04	-6.015420e-04	1.726280e-04	-4.870260e-04	-4.676610e-06	1.478320e-02
slsubbsn_13	1.457690e-04	-8.157500e-04	2.210580e-04	-6.826310e-04	-3.346060e-05	2.633980e-02
slsubbsn_14	2.102560e-05	-9.541350e-05	2.096150e-05	-6.700000e-05	2.195510e-06	1.060450e-03
slsubbsn_15	8.878200e-06	-2.099040e-05	6.730770e-06	-1.472120e-05	-4.345190e-06	1.978850e-04
slsubbsn_16	2.871790e-05	-1.191150e-04	3.964740e-05	-8.593590e-05	-8.118590e-06	4.135900e-03
slsubbsn_17	4.865380e-05	-2.707720e-04	6.250000e-05	-1.681700e-04	-9.158340e-06	1.137960e-02
slsubbsn_18	2.112310e-03	-7.228720e-03	3.163210e-03	-5.583790e-03	-5.319780e-04	1.868540e-01
slsubbsn_19	1.401920e-04	-8.199260e-04	2.188460e-04	-6.468850e-04	1.710900e-05	1.864850e-02
slsubbsn_20	7.202560e-04	-1.686840e-03	9.364420e-04	-1.522440e-03	-9.298140e-05	1.506640e-02
slsubbsn_21	1.760260e-04	-1.196870e-03	2.303210e-04	-9.098590e-04	-2.996380e-05	2.080830e-02
slsubbsn_22	8.016030e-05	-4.356030e-04	8.169870e-05	-2.703530e-04	-1.494620e-05	2.890550e-03
slsubbsn_23	2.948720e-06	-1.927560e-05	6.442310e-06	-1.139100e-05	2.214740e-06	2.652560e-04
slsubbsn_24	1.560900e-05	-3.979170e-05	1.849360e-05	-3.872760e-05	-3.475000e-06	-2.289390e-03
slsubbsn_25	4.192310e-05	-1.141700e-04	4.403850e-05	-1.009170e-04	-6.476920e-06	-1.905990e-03
slsubbsn_26	0.000000e+00	-9.743590e-07	0.000000e+00	-5.480770e-07	1.185900e-07	6.987180e-06
slsubbsn_27	1.487180e-05	-8.101920e-05	2.631410e-05	-7.039100e-05	-2.578530e-06	4.808010e-04
slsubbsn_28	4.262820e-06	-4.237180e-06	5.320510e-06	-1.316990e-05	-1.519230e-06	-2.453970e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
slsubbsn_29	1.282050e-07	-1.282050e-08	0.000000e+00	-1.955130e-07	7.371800e-07	3.205130e-08
slsubbsn_30	0.000000e+00	-4.439100e-06	9.615380e-08	-1.980770e-06	9.166670e-08	1.686220e-04
slsubbsn_31	5.096150e-06	-3.043910e-05	5.897440e-06	-2.394870e-05	-1.407690e-06	3.021800e-04
slsubbsn_32	4.750320e-04	-3.683470e-03	6.920510e-04	-2.698420e-03	-6.870390e-05	1.207980e-01
slsubbsn_33	3.869230e-04	-1.678370e-03	4.908980e-04	-1.275210e-03	-2.897370e-05	3.928400e-02
slsubbsn_34	9.025320e-04	-5.204230e-03	1.240830e-03	-4.314120e-03	-9.090870e-05	2.014130e-01
slsubbsn_35	7.137820e-05	-2.149200e-04	7.330130e-05	-1.723400e-04	-1.894210e-07	5.133400e-03
slsubbsn_36	4.016030e-05	-8.796150e-05	2.448720e-05	-7.389100e-05	-9.358960e-08	1.056860e-03
slsubbsn_37	2.512820e-05	-6.295190e-05	2.323720e-05	-5.662180e-05	6.180770e-06	9.141350e-04
slsubbsn_38	1.064260e-03	-2.827880e-03	1.239130e-03	-2.357040e-03	-1.088560e-04	8.173880e-02
slsubbsn_39	8.868590e-05	-2.348400e-04	9.330130e-05	-1.874010e-04	-7.693910e-06	2.566600e-03
slsubbsn_40	2.855770e-05	-7.656090e-05	1.990380e-05	-5.883650e-05	5.102880e-06	3.284940e-04
slsubbsn_41	9.519230e-06	-1.343590e-05	7.019230e-06	-1.264100e-05	4.573720e-07	1.527240e-04
slsubbsn_42	8.269230e-06	-1.147440e-05	9.743590e-06	-1.510580e-05	4.410260e-07	-5.211540e-05
slsubbsn_43	6.666670e-06	-1.593590e-05	7.147440e-06	-1.209290e-05	-2.754490e-06	1.841350e-04
slsubbsn_44	1.602560e-07	-6.410280e-08	2.243590e-07	-7.019230e-07	1.866670e-06	2.891030e-05
slsubbsn_45	9.935900e-07	-7.673080e-06	2.115380e-06	-5.435900e-06	-3.525600e-08	1.094550e-04
slsubbsn_46	5.320510e-06	-4.287500e-05	4.967950e-06	-2.905770e-05	4.850960e-06	2.047760e-04
slsubbsn_47	1.634620e-05	-2.076190e-04	2.480770e-05	-1.456730e-04	-4.358010e-06	1.046490e-02
slsubbsn_r	8.721890e-03	-3.264740e-02	1.127720e-02	-2.604260e-02	-9.827230e-04	9.892490e-01
sol_alb_1_01	-8.900640e-05	-9.596160e-06	-7.048080e-05	5.429490e-06	6.155140e-06	3.545830e-04
sol_alb_1_02	-1.315060e-04	-5.365390e-06	-1.222760e-04	1.185900e-05	3.149360e-06	9.374680e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_1_03	-4.975320e-04	-9.499990e-06	-4.998080e-04	6.675960e-05	-3.069740e-05	3.605190e-03
sol_alb_1_04	-2.038460e-05	-1.028850e-06	-1.929490e-05	1.384620e-06	-1.926380e-05	1.268590e-04
sol_alb_1_05	-3.442310e-04	9.358980e-06	-3.580450e-04	3.513460e-05	-2.095830e-05	-2.371470e-04
sol_alb_1_06	-4.318910e-04	4.487180e-06	-5.709290e-04	4.198400e-05	-1.883300e-05	4.994550e-04
sol_alb_1_07	-4.549680e-04	-3.478850e-05	-5.973400e-04	6.275640e-05	2.098110e-05	9.825550e-03
sol_alb_1_08	-2.471150e-05	1.794880e-07	-1.211540e-05	2.467950e-06	-1.872120e-06	-9.666670e-05
sol_alb_1_09	-4.000000e-05	-1.586540e-06	-1.942310e-05	4.317310e-06	-4.618270e-06	-6.730660e-07
sol_alb_1_10	-1.208330e-05	3.141020e-07	-5.480770e-06	-1.250000e-07	3.785260e-07	-2.730770e-05
sol_alb_1_11	-9.676280e-05	7.243590e-06	-1.143270e-04	6.169870e-06	5.052560e-05	-6.493590e-05
sol_alb_1_12	-2.571790e-04	8.608970e-06	-2.659290e-04	3.423400e-05	1.276280e-05	1.739750e-04
sol_alb_1_13	-1.911860e-04	1.403530e-05	-1.934620e-04	1.924040e-05	-2.669900e-05	5.064110e-05
sol_alb_1_14	-1.004810e-04	-7.865380e-06	-5.054490e-05	7.179480e-07	-4.572400e-05	7.914420e-04
sol_alb_1_15	-1.589740e-05	-4.166660e-07	-2.115380e-06	9.391030e-07	-7.781730e-06	3.525640e-05
sol_alb_1_16	-4.576920e-05	-1.291670e-06	-2.022440e-05	2.439100e-06	1.339360e-05	9.403850e-05
sol_alb_1_17	-2.133970e-04	-1.469550e-05	-2.019870e-04	2.375000e-05	2.183810e-05	1.250670e-03
sol_alb_1_18	-1.789170e-03	-2.085260e-05	-1.489550e-03	1.383970e-04	1.343450e-04	2.141070e-02
sol_alb_1_19	-5.783010e-04	-2.672440e-05	-6.918590e-04	4.448720e-05	1.050450e-04	2.154740e-03
sol_alb_1_20	-1.436510e-03	2.559620e-05	-1.324680e-03	3.336510e-04	-4.963430e-05	-7.939200e-05
sol_alb_1_21	-6.656410e-04	-2.409290e-05	-8.671150e-04	9.270190e-05	2.158910e-05	1.069650e-02
sol_alb_1_22	-1.162470e-03	6.479490e-05	-1.440510e-03	2.702820e-04	8.158690e-05	-1.226350e-03
sol_alb_1_23	-2.094870e-04	-1.177560e-05	-1.541670e-04	6.637820e-06	-1.609940e-05	3.521480e-03
sol_alb_1_24	-3.845830e-04	-3.585260e-05	-3.375960e-04	2.691990e-05	2.514710e-05	5.012020e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_1_25	-3.291990e-04	-3.077880e-05	-1.851280e-04	1.693910e-05	-6.297240e-05	4.542370e-03
sol_alb_1_26	-2.756410e-06	-3.525640e-08	-2.820510e-06	1.025640e-07	2.415060e-06	-1.153850e-06
sol_alb_1_27	-2.090380e-04	5.471150e-06	-1.757690e-04	1.632370e-05	1.280450e-06	-3.104170e-04
sol_alb_1_28	-8.990380e-05	-7.528840e-06	-7.189100e-05	-6.153850e-07	2.743270e-06	-3.660270e-05
sol_alb_1_29	1.282050e-07	0.000000e+00	9.935900e-07	3.205130e-09	-1.641670e-06	0.000000e+00
sol_alb_1_30	6.089740e-07	2.243590e-08	-6.410270e-08	4.166670e-08	4.711540e-07	-3.205130e-08
sol_alb_1_31	1.602560e-07	3.076920e-07	-3.365380e-06	4.423080e-07	-6.355770e-07	-3.525640e-07
sol_alb_1_32	-9.350960e-04	2.256400e-06	-1.137790e-03	1.548460e-04	4.026060e-05	9.881350e-03
sol_alb_1_33	-5.577240e-04	-2.400640e-06	-7.514100e-04	1.504550e-04	9.661280e-05	1.536280e-03
sol_alb_1_34	-6.903210e-04	5.672760e-05	-7.581410e-04	8.687820e-05	9.525330e-06	1.533330e-04
sol_alb_1_35	-1.748080e-04	-4.961540e-06	-1.976920e-04	1.205130e-06	7.310830e-05	2.683010e-04
sol_alb_1_36	-7.435900e-05	-1.102240e-05	-8.096150e-05	-2.134620e-06	3.503940e-05	-1.372120e-04
sol_alb_1_37	-2.592950e-05	-9.615350e-08	-2.435900e-05	5.993590e-07	1.015000e-05	-3.224360e-05
sol_alb_1_38	-1.080380e-03	-1.620990e-04	-8.845190e-04	1.068430e-04	1.129490e-04	1.528490e-02
sol_alb_1_39	-3.181730e-04	-2.630130e-05	-2.275960e-04	1.467630e-05	-3.261030e-05	1.008170e-03
sol_alb_1_40	-1.247120e-04	-9.689100e-06	-8.576920e-05	6.586540e-06	3.839710e-05	-5.324360e-04
sol_alb_1_41	-3.512820e-05	5.596150e-06	-3.044870e-06	2.730770e-06	-3.863940e-05	-3.980450e-04
sol_alb_1_42	-1.012500e-04	-6.608980e-06	-7.503210e-05	5.448710e-07	2.726470e-05	-3.072120e-04
sol_alb_1_43	-1.354490e-04	-2.425000e-05	-1.245830e-04	-9.814100e-06	3.959710e-05	-1.877240e-04
sol_alb_1_44	-2.131410e-05	4.173080e-06	-2.461540e-05	3.266030e-06	-1.348080e-06	-2.878200e-04
sol_alb_1_45	-5.237180e-05	-3.153840e-06	-4.009620e-05	-3.349360e-06	7.948080e-06	-4.145510e-04
sol_alb_1_46	-1.955130e-06	2.330130e-06	-1.724360e-05	1.384620e-06	8.227530e-07	-1.459940e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_1_47	-6.881410e-05	1.141030e-06	-8.762820e-05	1.810900e-06	2.911250e-05	1.047760e-04
sol_alb_1_r	-5.508820e-03	1.125020e-05	-5.528230e-03	6.466410e-04	9.960150e-05	3.379130e-02
sol_alb_2_01	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_02	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_03	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_04	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_05	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_06	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_07	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_08	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_09	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_10	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_11	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_12	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_13	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_14	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_15	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_16	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_17	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_18	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_19	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_20	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_2_21	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_22	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_23	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_24	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_25	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_26	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_27	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_28	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_29	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_30	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_31	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_32	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_33	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_34	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_35	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_36	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_37	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_38	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_39	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_40	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_41	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_42	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_2_43	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_44	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_45	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_46	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_47	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_2_r	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_01	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_02	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_03	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_04	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_05	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_06	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_07	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_08	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_09	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_10	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_11	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_12	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_13	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_14	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_15	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_16	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_3_17	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_18	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_19	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_20	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_21	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_22	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_23	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_24	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_25	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_26	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_27	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_28	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_29	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_30	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_31	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_32	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_33	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_34	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_35	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_36	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_37	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_38	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_alb_3_39	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_40	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_41	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_42	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_43	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_44	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_45	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_46	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_47	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_alb_3_r	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
sol_awc_1_01	1.090710e-04	8.116670e-05	7.448720e-05	4.729490e-05	6.528840e-06	-6.358650e-04
sol_awc_1_02	6.663140e-04	-9.881600e-04	7.497120e-04	-8.381830e-04	3.141670e-05	9.965960e-03
sol_awc_1_03	3.776730e-03	-3.598050e-03	3.861570e-03	-3.244120e-03	-3.968910e-05	3.199570e-02
sol_awc_1_04	5.878210e-05	5.580130e-06	5.596150e-05	4.564100e-06	1.228850e-05	-7.525640e-05
sol_awc_1_05	5.536540e-04	-4.734360e-04	7.110900e-04	-3.607920e-04	-5.481310e-05	3.936610e-02
sol_awc_1_06	1.480740e-03	6.252560e-05	1.394680e-03	-1.318240e-04	4.502880e-05	-4.971700e-03
sol_awc_1_07	1.208490e-03	-1.681150e-04	1.242050e-03	-5.310990e-04	-5.790510e-05	-1.548260e-02
sol_awc_1_08	3.368590e-05	3.522440e-06	4.153850e-05	2.519230e-06	-6.057690e-06	1.037820e-04
sol_awc_1_09	1.301280e-05	-2.704490e-05	6.650640e-05	-1.491990e-05	-4.653530e-05	9.450640e-04
sol_awc_1_10	1.131410e-05	-6.378210e-07	1.080130e-05	2.147440e-07	4.163460e-06	1.553530e-04
sol_awc_1_11	4.841990e-04	-5.658650e-05	4.850000e-04	-6.688780e-05	4.637980e-05	-1.408650e-04
sol_awc_1_12	1.465220e-03	-1.625340e-03	1.824010e-03	-1.481660e-03	-4.068200e-05	4.280120e-02

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_awc_1_13	3.048080e-04	4.402570e-04	4.063780e-04	3.684140e-04	-2.300640e-05	-2.045150e-02
sol_awc_1_14	2.044550e-04	1.076930e-06	1.595510e-04	-1.390700e-05	-1.419870e-06	-5.678430e-03
sol_awc_1_15	4.125000e-05	-4.221150e-06	4.429490e-05	-7.657050e-06	-1.046150e-05	-5.317310e-05
sol_awc_1_16	7.067310e-05	2.432690e-05	4.381410e-05	2.466990e-05	-6.432700e-06	-9.916340e-04
sol_awc_1_17	3.816670e-04	6.432370e-05	3.975320e-04	-4.080140e-06	3.095830e-05	5.201850e-05
sol_awc_1_18	2.886410e-03	-6.932160e-04	1.749550e-03	-1.499790e-03	5.271700e-04	3.592400e-02
sol_awc_1_19	5.256730e-04	-3.401950e-04	5.270830e-04	-3.269740e-04	-2.591670e-05	7.646410e-03
sol_awc_1_20	2.247250e-03	9.365280e-03	6.924050e-04	6.704170e-03	1.089650e-03	-5.641150e-02
sol_awc_1_21	1.614420e-03	6.951930e-05	1.869130e-03	-3.035190e-04	-1.718460e-04	-4.487450e-03
sol_awc_1_22	-6.523390e-04	8.953910e-03	-1.525830e-03	7.190570e-03	7.281650e-04	9.474510e-02
sol_awc_1_23	8.207050e-04	3.097440e-05	6.651920e-04	3.390060e-05	-5.487820e-05	7.365710e-04
sol_awc_1_24	1.173460e-03	6.359930e-05	1.213720e-03	-2.794860e-06	-9.430450e-05	-6.221820e-03
sol_awc_1_25	8.497760e-04	-8.864100e-05	7.342310e-04	-2.158010e-05	1.493270e-05	1.417630e-03
sol_awc_1_26	1.048080e-05	6.538460e-07	1.762820e-06	1.025640e-07	6.535260e-06	-2.875000e-05
sol_awc_1_27	5.861220e-04	4.078520e-05	5.305770e-04	2.891990e-05	4.668270e-05	-4.847440e-04
sol_awc_1_28	2.440710e-04	7.092950e-06	2.630450e-04	-8.778840e-06	-6.029490e-05	-4.613400e-03
sol_awc_1_29	6.442310e-06	-6.538460e-07	6.089740e-06	-8.301280e-07	1.608980e-07	4.679490e-06
sol_awc_1_30	2.157050e-05	-8.605770e-06	1.701920e-05	-9.451920e-06	1.500580e-05	-9.038460e-06
sol_awc_1_31	3.836540e-05	1.329810e-05	3.317310e-05	6.596150e-06	-1.155100e-05	-1.460260e-04
sol_awc_1_32	5.741960e-03	-5.258320e-03	6.579940e-03	-4.617660e-03	-8.927890e-05	-5.340510e-02
sol_awc_1_33	1.107850e-03	6.977210e-03	1.015290e-03	5.431560e-03	-1.764780e-04	-1.054240e-01
sol_awc_1_34	6.887400e-03	-6.555400e-03	8.586730e-03	-6.356660e-03	-4.239390e-04	1.085130e-01

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_awc_1_35	3.905450e-04	2.292470e-04	3.753850e-04	7.746470e-05	-6.771160e-05	-1.181740e-02
sol_awc_1_36	2.653850e-04	1.057180e-04	2.712180e-04	5.992310e-05	-2.962820e-05	-1.834620e-04
sol_awc_1_37	1.179490e-05	1.122760e-05	2.602560e-05	1.794870e-07	-1.426600e-05	3.016020e-05
sol_awc_1_38	1.485480e-03	1.161670e-03	1.441700e-03	6.299650e-04	-3.461860e-05	-3.030040e-02
sol_awc_1_39	3.183010e-04	-2.671310e-04	3.765710e-04	-2.331860e-04	3.660260e-05	7.985450e-03
sol_awc_1_40	2.268910e-04	-3.696470e-05	2.527560e-04	-5.467630e-05	2.321150e-05	9.293910e-04
sol_awc_1_41	8.631410e-05	7.592950e-06	9.846150e-05	5.458330e-06	2.936860e-05	2.477560e-04
sol_awc_1_42	3.268590e-04	-8.725960e-05	2.996150e-04	-6.451920e-06	-3.832370e-05	2.834580e-03
sol_awc_1_43	4.712180e-04	8.273720e-05	4.426280e-04	3.287500e-05	-2.458330e-06	1.458170e-03
sol_awc_1_44	1.733970e-05	-7.435900e-06	5.583330e-05	5.833340e-07	-8.878210e-06	4.983970e-05
sol_awc_1_45	1.152880e-04	2.598080e-05	1.703850e-04	1.432690e-05	-2.147440e-05	7.268910e-04
sol_awc_1_46	1.022760e-04	-1.069040e-04	1.273720e-04	-1.045480e-04	-9.924040e-06	-4.294360e-03
sol_awc_1_47	3.125960e-04	-5.586860e-05	4.257690e-04	-9.709610e-05	-6.473040e-05	-9.139460e-03
sol_awc_1_r	1.986160e-02	4.592420e-03	1.943850e-02	2.199560e-03	3.894960e-04	-2.950660e-01
sol_awc_2_01	6.073720e-05	1.045830e-05	5.294870e-05	4.804490e-06	2.535260e-06	-6.085660e-04
sol_awc_2_02	3.368590e-05	1.331730e-04	5.512820e-05	1.274520e-04	-1.600960e-05	1.329150e-02
sol_awc_2_03	-2.419870e-04	1.004270e-03	-1.932050e-04	7.077720e-04	-9.160250e-06	1.213330e-02
sol_awc_2_04	3.064100e-05	5.653850e-06	1.833330e-05	3.179490e-06	-4.105770e-06	2.420190e-05
sol_awc_2_05	1.533370e-03	4.086600e-04	1.445260e-03	3.290480e-04	-1.107280e-05	-9.368560e-03
sol_awc_2_06	1.646960e-03	1.075000e-04	1.572790e-03	1.567050e-04	1.657210e-05	-7.299650e-03
sol_awc_2_07	2.266920e-03	3.890260e-04	2.103850e-03	3.192470e-04	1.265720e-06	-2.732960e-02
sol_awc_2_08	6.698720e-06	1.769230e-06	9.166670e-06	1.894230e-06	-2.701920e-06	3.130840e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_awc_2_09	2.294870e-05	-2.115380e-06	3.076920e-05	-1.868590e-06	-1.775640e-06	1.138710e-04
sol_awc_2_10	7.660260e-06	1.288460e-06	6.474360e-06	6.217940e-07	1.435900e-06	-1.897050e-05
sol_awc_2_11	3.143590e-04	-3.120510e-05	3.077880e-04	-3.072110e-05	-2.288910e-05	-1.506630e-03
sol_awc_2_12	7.164420e-04	5.036410e-04	7.807370e-04	3.239870e-04	-4.369460e-05	-3.148460e-02
sol_awc_2_13	4.210580e-04	9.138010e-04	4.971800e-04	6.487280e-04	1.362630e-05	-5.410300e-03
sol_awc_2_14	1.286860e-04	-5.428200e-05	1.299040e-04	-2.117310e-05	3.647440e-06	4.207290e-03
sol_awc_2_15	1.730770e-05	1.381410e-06	1.708330e-05	6.570510e-07	-1.977560e-06	-1.366250e-04
sol_awc_2_16	4.858970e-05	-4.487820e-05	4.717950e-05	-2.238140e-05	-6.121790e-06	4.753840e-03
sol_awc_2_17	-1.134940e-04	7.341350e-05	-7.035260e-05	5.857370e-05	1.270710e-05	5.582110e-03
sol_awc_2_18	5.956410e-04	-4.550270e-05	5.512500e-04	1.852590e-05	-1.030030e-04	4.372170e-02
sol_awc_2_19	-5.269230e-05	4.799100e-04	-3.083330e-05	2.994170e-04	1.663140e-05	4.045890e-03
sol_awc_2_20	6.938400e-03	3.053270e-04	5.909260e-03	6.090190e-04	1.492700e-04	-3.392670e-03
sol_awc_2_21	2.804100e-03	7.614460e-04	2.644780e-03	5.354170e-04	-6.609000e-05	-9.692460e-02
sol_awc_2_22	4.632850e-03	2.434680e-04	4.734010e-03	3.864070e-04	-1.601340e-04	-3.602750e-02
sol_awc_2_23	2.248080e-04	4.304170e-05	2.250960e-04	4.004490e-05	-2.021480e-05	4.723330e-04
sol_awc_2_24	4.070510e-04	-1.153810e-04	3.872760e-04	-4.425000e-05	-2.443590e-05	1.215520e-03
sol_awc_2_25	3.524680e-04	1.611220e-05	3.350960e-04	3.015710e-05	-6.466670e-05	3.546440e-03
sol_awc_2_26	1.057690e-06	-1.137820e-06	4.006410e-06	2.628210e-07	-3.073720e-06	-4.387820e-06
sol_awc_2_27	1.798080e-04	-6.493600e-06	2.050000e-04	-1.176280e-06	-1.791670e-05	4.767280e-04
sol_awc_2_28	1.212500e-04	2.566030e-05	1.139740e-04	3.683650e-05	-9.442310e-06	5.819930e-04
sol_awc_2_29	4.807690e-06	-8.814100e-07	1.923080e-06	-7.467950e-07	-3.716350e-06	1.666670e-06
sol_awc_2_30	5.929490e-06	-3.355770e-06	3.173080e-06	2.564100e-08	-1.460260e-06	7.966990e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_awc_2_31	4.711540e-06	-1.222120e-05	-7.115380e-06	-1.983980e-06	-8.441030e-06	5.497980e-04
sol_awc_2_32	3.765030e-03	-9.597400e-05	4.604900e-03	-1.308780e-04	-1.066150e-04	-7.721420e-02
sol_awc_2_33	2.101830e-03	1.156070e-03	2.622600e-03	6.858880e-04	-4.846890e-05	-5.152950e-02
sol_awc_2_34	3.566630e-03	-4.434670e-03	3.944740e-03	-2.757640e-03	-3.518240e-05	1.362980e-01
sol_awc_2_35	2.935580e-04	-8.766670e-05	2.704810e-04	-7.068270e-05	-3.706090e-05	-1.492360e-03
sol_awc_2_36	1.347760e-04	4.016030e-06	1.345510e-04	-1.186220e-05	-1.614100e-05	-1.323690e-03
sol_awc_2_37	4.323720e-05	-3.526090e-08	4.557690e-05	2.467930e-07	-2.208010e-05	-1.169520e-04
sol_awc_2_38	3.549040e-04	1.295850e-03	4.239420e-04	8.152560e-04	-8.969870e-05	2.077900e-03
sol_awc_2_39	-7.064100e-05	2.975900e-04	-1.006410e-05	2.221760e-04	-9.712180e-06	1.993570e-03
sol_awc_2_40	2.166670e-05	7.319870e-05	3.891030e-05	4.435260e-05	-1.533970e-05	6.949420e-04
sol_awc_2_41	6.724360e-05	9.541670e-06	6.429490e-05	4.663460e-06	-6.647430e-06	-2.179810e-04
sol_awc_2_42	1.181410e-04	1.791670e-05	7.596160e-05	1.621150e-05	1.042630e-05	5.410600e-05
sol_awc_2_43	1.488780e-04	4.158980e-05	2.057050e-04	3.564740e-05	-3.583010e-05	3.911190e-04
sol_awc_2_44	2.695510e-05	-1.064100e-06	2.714740e-05	2.705130e-06	-4.358970e-07	6.784300e-05
sol_awc_2_45	2.711540e-05	2.788460e-06	5.317310e-05	4.756410e-06	3.076910e-07	2.257340e-04
sol_awc_2_46	2.878200e-05	9.097440e-05	5.413460e-05	5.733010e-05	-1.300800e-05	-1.220480e-03
sol_awc_2_47	3.368270e-04	-2.753180e-06	3.429490e-04	1.698800e-07	-1.830420e-05	-7.878520e-03
sol_awc_2_r	1.110580e-02	1.576450e-03	1.107560e-02	1.256590e-03	4.921620e-05	-1.472310e-01
sol_awc_3_01	3.653850e-06	-1.025640e-07	3.108970e-06	1.269230e-06	-1.958330e-07	-2.564100e-07
sol_awc_3_02	2.067950e-04	1.701600e-05	2.264740e-04	4.788460e-06	1.745190e-06	-9.287500e-04
sol_awc_3_03	8.319230e-04	8.186540e-05	8.791030e-04	1.859620e-05	-1.439250e-04	-4.972560e-03
sol_awc_3_04	3.900640e-05	3.637820e-06	3.477560e-05	3.121800e-06	-4.124680e-06	-1.764740e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_awc_3_05	4.361860e-04	3.017950e-05	4.623080e-04	7.435870e-07	-5.315690e-06	-1.157980e-03
sol_awc_3_06	4.617950e-04	1.315710e-05	4.928850e-04	5.977560e-06	-3.809710e-05	-5.501380e-03
sol_awc_3_07	6.753530e-04	2.647120e-05	6.964740e-04	-3.333330e-06	-8.744220e-06	5.173720e-04
sol_awc_3_08	1.602560e-07	4.166670e-08	1.121790e-06	-9.711540e-07	3.769230e-07	0.000000e+00
sol_awc_3_09	2.307690e-06	2.980770e-07	3.205130e-06	-3.012820e-07	-2.692310e-07	9.615410e-08
sol_awc_3_10	0.000000e+00	0.000000e+00	6.730770e-07	-1.923080e-08	-2.692310e-07	0.000000e+00
sol_awc_3_11	1.749360e-04	-8.907050e-06	2.085900e-04	-8.586540e-06	-1.450010e-06	3.571950e-03
sol_awc_3_12	4.516030e-04	2.208010e-05	5.462820e-04	-1.429490e-06	-6.306540e-05	-5.429650e-03
sol_awc_3_13	3.203850e-04	4.282050e-06	3.340710e-04	-4.464740e-06	-3.319610e-05	-9.878210e-05
sol_awc_3_14	7.115390e-06	-8.012820e-08	6.634620e-06	6.602560e-07	-2.718590e-06	-3.621800e-06
sol_awc_3_15	1.826920e-06	4.166670e-08	4.166670e-07	-2.884610e-08	-2.243590e-08	0.000000e+00
sol_awc_3_16	4.102560e-06	9.487180e-07	1.987180e-06	3.525640e-08	-1.192310e-07	-7.419870e-05
sol_awc_3_17	2.986220e-04	2.055770e-05	2.799680e-04	1.216990e-05	-1.461220e-05	-8.159940e-04
sol_awc_3_18	3.102310e-03	1.068650e-04	2.657150e-03	7.436540e-05	7.207730e-05	-1.784390e-02
sol_awc_3_19	8.603210e-04	9.185260e-05	7.386220e-04	5.337820e-05	-1.686470e-05	-3.173940e-03
sol_awc_3_20	1.847370e-03	-1.579490e-05	1.716280e-03	-1.598720e-05	2.460430e-04	3.002150e-03
sol_awc_3_21	7.849680e-04	6.004810e-05	8.668910e-04	4.027560e-05	-3.685290e-05	-8.279740e-03
sol_awc_3_22	1.283300e-03	3.958330e-06	1.174390e-03	-4.566030e-05	1.169670e-04	-8.017180e-03
sol_awc_3_23	5.576920e-06	3.423080e-06	2.820510e-05	2.746790e-06	-1.472760e-06	-8.224360e-05
sol_awc_3_24	1.125000e-05	-5.705130e-07	4.262820e-05	5.602560e-06	-2.785580e-06	8.006410e-05
sol_awc_3_25	1.240380e-05	1.022440e-05	4.195510e-05	7.464740e-06	-3.102880e-06	-1.909300e-04
sol_awc_3_26	0.000000e+00	0.000000e+00	2.243590e-07	4.166670e-08	1.282040e-08	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_awc_3_27	6.634610e-06	5.070510e-06	3.205130e-05	8.900640e-06	4.284620e-06	-3.378200e-05
sol_awc_3_28	3.974360e-06	1.291670e-06	1.435900e-05	5.551280e-06	9.464740e-07	7.759620e-05
sol_awc_3_29	2.948720e-06	-1.602560e-07	1.666670e-06	-1.282050e-07	-1.653210e-06	0.000000e+00
sol_awc_3_30	1.923080e-06	-2.243590e-07	5.448720e-06	-1.666670e-07	-4.325960e-06	0.000000e+00
sol_awc_3_31	1.163460e-05	-7.532050e-07	8.910260e-06	-8.173080e-07	-9.435910e-07	7.371800e-06
sol_awc_3_32	2.579170e-03	2.176410e-04	2.695220e-03	6.301280e-05	8.016700e-05	-5.371540e-02
sol_awc_3_33	1.356470e-03	8.695830e-05	1.648690e-03	-1.521800e-05	6.104150e-06	-2.375390e-02
sol_awc_3_34	2.309740e-03	2.002660e-04	2.655420e-03	-2.218270e-05	-9.453720e-05	-4.827260e-02
sol_awc_3_35	1.445510e-05	2.211540e-06	1.259620e-05	1.576920e-06	-5.740380e-07	-5.269230e-05
sol_awc_3_36	4.230770e-06	2.291670e-06	6.089740e-06	4.230770e-07	-3.239100e-06	-1.488140e-04
sol_awc_3_37	1.250000e-06	-1.057690e-07	1.314100e-06	4.967950e-07	1.905450e-06	1.025510e-14
sol_awc_3_38	1.129650e-03	1.872600e-04	1.066190e-03	5.797760e-05	2.331220e-05	-6.878080e-03
sol_awc_3_39	3.089740e-04	2.997760e-05	2.508330e-04	1.388140e-05	-4.964420e-06	-1.269170e-03
sol_awc_3_40	1.646790e-04	1.968270e-05	1.354170e-04	1.092950e-05	1.518970e-05	-3.711540e-04
sol_awc_3_41	3.076920e-06	1.086540e-06	7.660260e-06	-1.705130e-06	-1.987180e-06	-1.046470e-04
sol_awc_3_42	8.044870e-06	9.455130e-07	1.974360e-05	-1.173080e-06	-7.720510e-06	1.125320e-04
sol_awc_3_43	9.775640e-06	1.833330e-06	1.740380e-05	1.596150e-06	2.147480e-08	-5.868590e-05
sol_awc_3_44	2.147440e-06	1.227560e-06	3.076920e-06	-6.602560e-07	1.092630e-06	4.455130e-06
sol_awc_3_45	2.660260e-06	-5.641030e-07	8.076920e-06	-1.987180e-07	-1.153530e-06	8.762820e-05
sol_awc_3_46	3.964740e-05	3.554490e-06	3.560900e-05	1.333330e-06	1.708370e-05	-1.557690e-05
sol_awc_3_47	1.639740e-04	-1.086540e-06	2.241350e-04	6.993590e-06	-2.961560e-07	2.105220e-03
sol_awc_3_r	7.067020e-03	3.349710e-04	6.982750e-03	5.550260e-05	2.359130e-05	-6.303080e-02

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_1_01	1.923070e-06	-7.968270e-05	6.570510e-06	-3.901920e-05	1.330110e-07	1.512820e-02
sol_k_1_02	-5.131410e-05	-2.372430e-05	-3.679490e-05	4.612180e-06	-1.589430e-06	1.480570e-02
sol_k_1_03	-5.151280e-04	8.065290e-04	-6.027240e-04	6.794970e-04	4.174940e-05	1.957640e-02
sol_k_1_04	3.814100e-06	-8.961540e-06	4.102560e-06	-1.007370e-05	-5.324040e-06	4.776310e-03
sol_k_1_05	1.079170e-04	-9.636790e-04	2.050320e-04	-7.647630e-04	-4.739680e-05	9.418360e-02
sol_k_1_06	2.008970e-04	-1.290690e-03	3.771470e-04	-1.046890e-03	-4.032530e-05	1.082120e-01
sol_k_1_07	2.838780e-04	-1.836160e-03	5.213460e-04	-1.374490e-03	-5.633430e-05	1.774320e-01
sol_k_1_08	8.557690e-06	-2.225960e-05	6.025640e-06	-1.792310e-05	-8.691670e-06	2.695960e-03
sol_k_1_09	1.282050e-05	-4.047440e-05	2.022440e-05	-4.379170e-05	-4.153850e-06	1.455810e-03
sol_k_1_10	6.185900e-06	-7.211540e-06	6.282050e-06	-1.005130e-05	-1.242630e-06	4.172080e-04
sol_k_1_11	-7.214740e-05	8.017630e-05	-6.705130e-05	6.169870e-05	-9.126600e-06	3.751820e-03
sol_k_1_12	-1.403850e-04	1.967880e-04	-1.467950e-04	2.086790e-04	1.417820e-05	2.873730e-02
sol_k_1_13	-2.440380e-04	4.191570e-04	-2.401920e-04	4.140960e-04	-1.356760e-05	-2.575310e-03
sol_k_1_14	-1.403850e-05	-4.005770e-05	-1.275640e-05	-6.262830e-06	5.623400e-06	9.295090e-03
sol_k_1_15	-2.435900e-06	2.326920e-06	-6.987180e-06	8.307690e-06	1.903840e-06	4.896510e-04
sol_k_1_16	-3.137820e-05	4.359290e-05	-4.115380e-05	3.819230e-05	7.011220e-06	6.181670e-04
sol_k_1_17	-6.185900e-05	-4.260580e-05	-6.586540e-05	1.413450e-06	2.399710e-05	2.203750e-02
sol_k_1_18	-2.282600e-03	3.473260e-03	-2.766920e-03	2.665960e-03	4.993690e-05	8.149280e-02
sol_k_1_19	-1.721470e-04	2.497760e-05	-1.788460e-04	1.026350e-04	1.483370e-05	5.681760e-02
sol_k_1_20	9.118910e-04	-5.470940e-03	2.250670e-03	-4.858740e-03	-9.633640e-04	4.783160e-01
sol_k_1_21	-1.228200e-04	-1.223610e-03	-9.060890e-05	-7.296220e-04	-4.025190e-05	1.764200e-01
sol_k_1_22	4.865710e-04	-3.320690e-03	1.381800e-03	-2.752130e-03	-6.716620e-04	3.575050e-01

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_1_23	1.016990e-04	-3.315960e-04	1.026920e-04	-2.748490e-04	2.476280e-06	2.642990e-02
sol_k_1_24	1.694230e-04	-5.467150e-04	1.700000e-04	-4.210350e-04	-2.788040e-05	6.407850e-02
sol_k_1_25	2.282050e-05	-3.461700e-04	2.637820e-05	-2.536090e-04	-3.787950e-05	5.104370e-02
sol_k_1_26	-1.602560e-07	-3.878200e-07	9.615390e-07	-2.217950e-06	-9.663460e-07	-6.089750e-07
sol_k_1_27	5.304490e-05	-3.822050e-04	7.685900e-05	-2.643750e-04	8.673720e-06	4.949040e-02
sol_k_1_28	2.304490e-05	-1.670510e-04	4.108970e-05	-1.124650e-04	-5.434940e-06	2.398460e-02
sol_k_1_29	0.000000e+00	-2.000000e-06	-1.282050e-07	-1.384620e-06	1.762820e-07	1.498720e-04
sol_k_1_30	0.000000e+00	3.878210e-06	-1.602560e-07	-2.541670e-06	-6.217950e-07	8.418590e-05
sol_k_1_31	-7.852570e-06	4.913460e-06	-7.275640e-06	8.163460e-06	4.535260e-07	4.185770e-04
sol_k_1_32	-5.044230e-04	6.274780e-04	-5.374680e-04	4.482370e-04	-1.055800e-04	1.488230e-01
sol_k_1_33	-2.700640e-04	5.203620e-04	-3.687820e-04	5.277180e-04	1.334230e-05	7.350990e-02
sol_k_1_34	-1.178430e-03	3.013280e-03	-1.508370e-03	2.679330e-03	3.848520e-05	-1.588640e-02
sol_k_1_35	-3.701930e-05	-1.368270e-04	-3.461560e-06	-9.166660e-05	-3.005870e-05	3.072680e-02
sol_k_1_36	-1.003200e-05	-9.405450e-05	1.128210e-05	-6.511220e-05	-8.535260e-07	1.277650e-02
sol_k_1_37	-1.839740e-05	1.036860e-05	-1.942310e-05	1.056730e-05	1.183010e-06	1.172850e-03
sol_k_1_38	-1.035510e-03	1.189510e-03	-1.191090e-03	1.036830e-03	7.215060e-05	4.342270e-02
sol_k_1_39	-6.753200e-05	-4.651930e-05	-2.708330e-05	-4.490710e-05	-3.433780e-05	1.851440e-02
sol_k_1_40	-9.903850e-06	-7.920830e-05	-1.205130e-05	-4.866670e-05	6.353850e-06	1.466030e-02
sol_k_1_41	3.980770e-05	-8.558330e-05	3.525640e-05	-6.933010e-05	-3.845830e-06	8.127470e-03
sol_k_1_42	1.151600e-04	-2.133690e-04	1.136540e-04	-2.135670e-04	-2.592690e-05	1.184030e-02
sol_k_1_43	1.178210e-04	-2.473080e-04	1.234620e-04	-2.422760e-04	-8.597110e-06	1.068390e-02
sol_k_1_44	2.294870e-05	-4.589420e-05	2.541670e-05	-3.595510e-05	-1.217880e-05	3.474820e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_1_45	4.102560e-05	-8.817310e-05	5.134620e-05	-8.024680e-05	1.167630e-06	6.092650e-03
sol_k_1_46	-1.051280e-05	9.839740e-06	-1.182690e-05	1.250000e-05	3.335260e-06	4.464870e-04
sol_k_1_47	-3.625000e-05	-5.131410e-06	-5.862180e-05	6.256410e-06	3.038110e-05	7.124710e-03
sol_k_1_r	-2.021840e-03	-4.132470e-04	-1.832660e-03	6.858650e-06	-3.766550e-04	6.767080e-01
sol_k_2_01	0.000000e+00	1.438460e-05	0.000000e+00	7.554490e-06	0.000000e+00	-3.304810e-04
sol_k_2_02	-3.237180e-06	7.101600e-05	-1.282050e-06	5.062180e-05	1.410260e-07	-4.840190e-03
sol_k_2_03	-3.384620e-05	5.812530e-04	-2.910260e-05	4.208170e-04	4.255450e-06	-2.976050e-02
sol_k_2_04	0.000000e+00	2.564100e-06	-6.410260e-08	3.480770e-06	8.653850e-08	-3.134620e-05
sol_k_2_05	0.000000e+00	1.020000e-04	-6.410260e-07	6.773080e-05	-1.695510e-06	-6.819550e-04
sol_k_2_06	0.000000e+00	2.431090e-05	0.000000e+00	1.718910e-05	0.000000e+00	-1.001280e-04
sol_k_2_07	0.000000e+00	8.023400e-05	0.000000e+00	4.871150e-05	-8.333330e-08	-2.759940e-04
sol_k_2_08	0.000000e+00	-7.628200e-07	0.000000e+00	6.410260e-08	0.000000e+00	-1.384620e-05
sol_k_2_09	0.000000e+00	2.131410e-06	0.000000e+00	6.891020e-07	9.615380e-09	-2.253200e-05
sol_k_2_10	0.000000e+00	3.493590e-07	0.000000e+00	1.314100e-07	0.000000e+00	0.000000e+00
sol_k_2_11	-1.602560e-06	4.035260e-05	-7.051280e-07	4.064740e-05	-7.371800e-07	-8.030450e-04
sol_k_2_12	-4.903850e-06	1.743140e-04	-2.692310e-06	1.507050e-04	-1.586540e-06	-7.134100e-03
sol_k_2_13	-9.615380e-06	3.359740e-04	-8.974360e-07	2.605220e-04	-6.144230e-06	-1.418220e-02
sol_k_2_14	0.000000e+00	2.982690e-05	0.000000e+00	1.861540e-05	0.000000e+00	-3.049040e-04
sol_k_2_15	0.000000e+00	3.342950e-06	0.000000e+00	3.836540e-06	0.000000e+00	-5.608980e-06
sol_k_2_16	0.000000e+00	2.822760e-05	0.000000e+00	2.423080e-05	0.000000e+00	-4.777240e-04
sol_k_2_17	-3.269230e-06	4.214740e-05	-2.243590e-06	3.822760e-05	2.525640e-06	-1.442180e-03
sol_k_2_18	-1.152880e-04	1.921670e-03	-1.097760e-04	1.133490e-03	2.728720e-05	-8.547410e-02

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_2_19	-7.884620e-06	2.004230e-04	-4.134620e-06	1.558460e-04	-4.560900e-06	-7.154170e-03
sol_k_2_20	-1.378210e-06	6.673720e-05	-6.730770e-07	4.050320e-05	6.410260e-09	-5.049040e-04
sol_k_2_21	-1.538460e-06	3.317080e-04	0.000000e+00	1.988620e-04	-2.458330e-06	-3.590800e-03
sol_k_2_22	0.000000e+00	1.279900e-04	-1.442310e-06	7.360900e-05	-6.794870e-07	-9.815380e-04
sol_k_2_23	0.000000e+00	-1.384610e-06	9.615380e-08	7.179490e-07	-6.410260e-08	1.461860e-04
sol_k_2_24	0.000000e+00	2.987180e-06	0.000000e+00	4.221150e-06	0.000000e+00	5.900640e-05
sol_k_2_25	0.000000e+00	3.173080e-06	0.000000e+00	5.993590e-06	0.000000e+00	2.803530e-04
sol_k_2_26	0.000000e+00	1.282050e-08	0.000000e+00	3.205130e-09	0.000000e+00	-3.205130e-08
sol_k_2_27	0.000000e+00	9.256410e-06	0.000000e+00	6.810900e-06	-8.333340e-08	4.455130e-05
sol_k_2_28	0.000000e+00	4.038460e-06	0.000000e+00	2.416670e-06	6.410260e-09	-7.948720e-06
sol_k_2_29	0.000000e+00	6.089740e-08	0.000000e+00	9.615390e-09	0.000000e+00	-3.205130e-08
sol_k_2_30	0.000000e+00	3.108970e-07	0.000000e+00	6.987180e-07	0.000000e+00	-9.615380e-08
sol_k_2_31	0.000000e+00	6.105770e-06	0.000000e+00	4.028850e-06	0.000000e+00	-1.641030e-05
sol_k_2_32	-4.903850e-06	1.066900e-03	-1.336540e-05	8.790420e-04	-5.955130e-06	-5.618110e-02
sol_k_2_33	-1.615380e-05	5.316470e-04	-1.173080e-05	4.207880e-04	-8.698720e-06	-2.164460e-02
sol_k_2_34	-3.983970e-05	1.675900e-03	-3.785260e-05	1.333530e-03	-7.918590e-06	-1.162720e-01
sol_k_2_35	1.602560e-07	6.396150e-05	0.000000e+00	3.963780e-05	6.410260e-09	-5.024040e-03
sol_k_2_36	0.000000e+00	2.042310e-05	0.000000e+00	1.191670e-05	0.000000e+00	-5.132690e-04
sol_k_2_37	0.000000e+00	1.896150e-05	6.410260e-08	7.798080e-06	-8.333330e-08	-5.637820e-04
sol_k_2_38	-6.153850e-05	6.639420e-04	-4.490380e-05	4.588300e-04	1.969130e-05	-3.178890e-02
sol_k_2_39	-9.647440e-06	5.460260e-05	-2.564100e-07	5.066990e-05	-2.448720e-06	-1.145510e-03
sol_k_2_40	-3.076920e-06	1.967950e-05	1.282050e-06	1.745510e-05	-2.586540e-06	-4.815070e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_2_41	0.000000e+00	-1.346150e-07	0.000000e+00	6.794870e-07	0.000000e+00	-2.669870e-05
sol_k_2_42	1.602560e-07	5.352560e-07	6.410260e-08	6.217950e-07	-1.698720e-07	4.166660e-07
sol_k_2_43	-1.282050e-07	-8.044870e-07	-7.371790e-07	3.397440e-07	8.942310e-07	-2.730770e-05
sol_k_2_44	0.000000e+00	1.794870e-07	0.000000e+00	2.596150e-07	0.000000e+00	1.666670e-06
sol_k_2_45	-1.282050e-07	1.089740e-07	0.000000e+00	2.179490e-07	0.000000e+00	-3.621790e-06
sol_k_2_46	-1.570510e-06	9.676280e-06	0.000000e+00	9.596150e-06	-8.141030e-07	-1.995510e-04
sol_k_2_47	0.000000e+00	4.761220e-05	-6.730770e-07	4.094230e-05	-1.733970e-06	-1.119650e-03
sol_k_2_r	-9.874760e-05	2.596400e-03	-9.561780e-05	1.718370e-03	1.452010e-05	-9.727110e-02
sol_k_3_01	0.000000e+00	5.971150e-06	0.000000e+00	4.355770e-06	0.000000e+00	-1.000320e-04
sol_k_3_02	-2.916670e-06	7.653850e-06	-1.410260e-06	9.118590e-06	-1.730770e-07	-1.215710e-04
sol_k_3_03	-1.602560e-06	6.577250e-05	-2.339740e-06	8.914420e-05	-1.608980e-06	-1.046310e-02
sol_k_3_04	0.000000e+00	1.189100e-06	-6.410260e-08	3.301280e-07	8.653850e-08	-6.038460e-05
sol_k_3_05	0.000000e+00	2.360960e-04	0.000000e+00	2.070610e-04	0.000000e+00	-9.794900e-03
sol_k_3_06	0.000000e+00	8.355770e-05	0.000000e+00	4.769870e-05	0.000000e+00	-8.418750e-03
sol_k_3_07	0.000000e+00	1.298750e-04	0.000000e+00	9.127570e-05	0.000000e+00	-5.171030e-03
sol_k_3_08	0.000000e+00	-5.448710e-08	0.000000e+00	9.935900e-07	0.000000e+00	-1.314100e-06
sol_k_3_09	0.000000e+00	1.528850e-06	0.000000e+00	1.580130e-06	0.000000e+00	2.669870e-05
sol_k_3_10	0.000000e+00	1.923080e-07	0.000000e+00	1.666670e-07	0.000000e+00	-7.051280e-07
sol_k_3_11	0.000000e+00	1.836860e-05	0.000000e+00	1.968270e-05	0.000000e+00	-3.595830e-04
sol_k_3_12	0.000000e+00	3.669230e-05	-7.371800e-07	3.113140e-05	2.884640e-08	-7.193910e-04
sol_k_3_13	0.000000e+00	4.758330e-05	0.000000e+00	5.169870e-05	0.000000e+00	-1.330550e-03
sol_k_3_14	0.000000e+00	2.750000e-06	0.000000e+00	4.144230e-06	0.000000e+00	-3.141020e-06

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_3_15	0.000000e+00	9.679490e-07	0.000000e+00	6.730770e-07	0.000000e+00	-2.884630e-07
sol_k_3_16	0.000000e+00	7.092950e-06	0.000000e+00	9.330130e-06	0.000000e+00	1.094550e-04
sol_k_3_17	-1.602560e-07	-5.128180e-07	-9.935900e-07	1.007690e-05	-1.301280e-06	4.169870e-05
sol_k_3_18	-6.666670e-06	2.938080e-04	-9.006410e-06	2.029940e-04	9.038460e-07	-2.514170e-02
sol_k_3_19	-4.679490e-06	1.841670e-05	-2.179490e-06	3.441990e-05	-1.589740e-06	-2.494010e-03
sol_k_3_20	0.000000e+00	1.379420e-04	0.000000e+00	9.580450e-05	0.000000e+00	-1.383490e-03
sol_k_3_21	0.000000e+00	4.373010e-04	0.000000e+00	3.399040e-04	0.000000e+00	-1.884310e-02
sol_k_3_22	0.000000e+00	3.272370e-04	0.000000e+00	2.173690e-04	0.000000e+00	-1.051730e-02
sol_k_3_23	0.000000e+00	7.833330e-06	0.000000e+00	6.016030e-06	0.000000e+00	-2.971150e-04
sol_k_3_24	0.000000e+00	2.235260e-05	0.000000e+00	1.622760e-05	0.000000e+00	-3.970510e-04
sol_k_3_25	0.000000e+00	6.269230e-05	0.000000e+00	4.624360e-05	0.000000e+00	-4.569870e-04
sol_k_3_26	0.000000e+00	3.108970e-07	0.000000e+00	9.449910e-15	0.000000e+00	8.012820e-07
sol_k_3_27	0.000000e+00	2.592310e-05	0.000000e+00	2.296470e-05	0.000000e+00	-4.785260e-04
sol_k_3_28	0.000000e+00	7.314100e-06	0.000000e+00	4.435900e-06	0.000000e+00	-1.075960e-04
sol_k_3_29	0.000000e+00	9.967950e-07	0.000000e+00	3.205130e-08	0.000000e+00	-9.407050e-05
sol_k_3_30	0.000000e+00	1.141030e-06	0.000000e+00	3.044870e-07	0.000000e+00	-9.355770e-05
sol_k_3_31	0.000000e+00	1.017950e-05	0.000000e+00	7.176280e-06	0.000000e+00	-3.814100e-04
sol_k_3_32	-1.634620e-06	2.354550e-04	-1.474360e-06	1.730160e-04	1.685900e-06	-1.863960e-02
sol_k_3_33	-1.730770e-06	5.358970e-05	0.000000e+00	5.519230e-05	0.000000e+00	3.380610e-03
sol_k_3_34	0.000000e+00	4.005550e-04	0.000000e+00	3.969010e-04	0.000000e+00	-2.244510e-02
sol_k_3_35	0.000000e+00	2.463140e-05	0.000000e+00	1.255450e-05	0.000000e+00	-3.051150e-03
sol_k_3_36	0.000000e+00	4.073720e-06	0.000000e+00	4.528850e-06	0.000000e+00	-2.782050e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_k_3_37	0.000000e+00	4.618590e-06	0.000000e+00	2.282050e-06	0.000000e+00	-2.759610e-05
sol_k_3_38	-6.025640e-06	7.233010e-05	-5.128200e-06	1.089870e-04	-5.769280e-08	-4.192850e-03
sol_k_3_39	-1.602560e-06	1.138780e-05	-7.692310e-07	1.402880e-05	-8.365380e-07	-3.124710e-03
sol_k_3_40	0.000000e+00	-6.532050e-06	-8.012820e-07	4.442310e-06	1.314100e-07	2.644550e-04
sol_k_3_41	0.000000e+00	2.615380e-06	0.000000e+00	3.086540e-06	0.000000e+00	-8.108970e-05
sol_k_3_42	0.000000e+00	3.891030e-06	0.000000e+00	4.820510e-06	0.000000e+00	-6.730730e-07
sol_k_3_43	0.000000e+00	2.801280e-06	0.000000e+00	4.105770e-06	0.000000e+00	3.846180e-07
sol_k_3_44	0.000000e+00	8.878200e-07	0.000000e+00	9.198720e-07	0.000000e+00	-5.160260e-06
sol_k_3_45	0.000000e+00	1.846150e-06	0.000000e+00	1.983970e-06	0.000000e+00	-2.211540e-06
sol_k_3_46	0.000000e+00	1.637820e-06	0.000000e+00	1.173080e-06	0.000000e+00	-4.391020e-06
sol_k_3_47	0.000000e+00	2.916350e-05	0.000000e+00	2.295830e-05	0.000000e+00	-4.127210e-03
sol_k_3_r	-1.065870e-05	8.269730e-04	-1.109860e-05	6.704630e-04	4.362120e-06	-3.395420e-02
sol_thk_1_01	2.579490e-04	1.588460e-05	2.547120e-04	-5.804490e-06	-3.226350e-05	2.852560e-03
sol_thk_1_02	3.972440e-04	9.278850e-06	3.730450e-04	-4.999680e-05	-5.943280e-06	-9.205130e-03
sol_thk_1_03	1.635320e-03	-3.713490e-04	1.552050e-03	-4.776570e-04	-3.527660e-05	-3.512490e-04
sol_thk_1_04	5.977560e-05	1.653850e-06	4.974360e-05	-1.500000e-06	1.614260e-05	-1.742630e-04
sol_thk_1_05	2.625930e-03	1.980450e-04	2.556600e-03	5.768910e-05	-9.372150e-05	-1.730550e-02
sol_thk_1_06	2.727660e-03	3.232240e-04	2.767850e-03	1.538720e-04	-1.655990e-05	-5.826300e-02
sol_thk_1_07	3.693460e-03	2.015580e-04	3.758620e-03	1.194460e-04	-1.398440e-04	-1.308920e-02
sol_thk_1_08	2.993590e-05	4.423080e-06	4.070510e-05	-1.044870e-06	-3.425320e-06	3.679480e-05
sol_thk_1_09	9.131410e-05	8.685890e-07	7.480770e-05	-1.125000e-06	-1.216280e-05	1.950960e-04
sol_thk_1_10	3.657050e-05	3.157050e-06	2.971150e-05	3.685900e-07	-1.103460e-05	6.535260e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_thk_1_11	4.750640e-04	-3.803850e-05	5.011220e-04	-7.433980e-05	-5.500960e-05	-1.428780e-03
sol_thk_1_12	1.005220e-03	-1.541190e-04	1.180670e-03	-1.295480e-04	-1.028210e-04	1.238480e-02
sol_thk_1_13	7.801600e-04	-1.546670e-04	8.548720e-04	-2.340610e-04	3.115390e-06	-6.822790e-03
sol_thk_1_14	4.210260e-04	4.521800e-05	4.092630e-04	7.413460e-06	-3.014390e-05	-8.367950e-03
sol_thk_1_15	5.884620e-05	5.246790e-06	6.445510e-05	-7.243590e-07	-1.314390e-05	-6.174360e-04
sol_thk_1_16	1.449360e-04	-2.185260e-05	1.562820e-04	-2.522440e-05	7.568910e-06	-1.733970e-04
sol_thk_1_17	5.051600e-04	6.509610e-06	4.718270e-04	-3.724040e-05	-3.287830e-06	-7.975160e-03
sol_thk_1_18	4.843490e-03	-1.178580e-03	4.331890e-03	-1.270170e-03	5.497640e-04	-1.105200e-02
sol_thk_1_19	1.462210e-03	-1.362180e-05	1.380100e-03	-1.263110e-04	-2.460540e-05	-6.905870e-03
sol_thk_1_20	1.125420e-02	1.036180e-03	1.082940e-02	7.536890e-04	2.452270e-04	-8.035410e-02
sol_thk_1_21	4.580380e-03	2.945350e-04	5.113810e-03	-4.733970e-05	-1.876650e-04	-7.175360e-02
sol_thk_1_22	7.847180e-03	1.407530e-04	7.713170e-03	2.839100e-04	2.798870e-04	-5.172530e-02
sol_thk_1_23	6.723720e-04	1.038780e-04	7.041990e-04	6.575320e-05	-1.333170e-05	1.368240e-03
sol_thk_1_24	1.080640e-03	4.704810e-05	1.140000e-03	1.269220e-06	8.215700e-06	1.477570e-04
sol_thk_1_25	9.427880e-04	1.159070e-04	1.056830e-03	3.230770e-06	-7.759260e-05	2.185640e-03
sol_thk_1_26	2.852560e-06	8.429490e-07	1.089740e-05	8.461540e-07	-5.066350e-06	4.006440e-06
sol_thk_1_27	7.679170e-04	7.449680e-05	7.825640e-04	3.763780e-05	-1.465290e-05	3.246480e-04
sol_thk_1_28	3.830770e-04	2.450640e-05	3.318270e-04	2.342630e-05	4.094010e-05	2.026540e-03
sol_thk_1_29	6.794870e-06	2.307690e-07	5.641030e-06	-6.089730e-08	1.221150e-06	-2.564100e-06
sol_thk_1_30	1.923080e-05	-9.807690e-07	1.355770e-05	-4.807690e-08	6.023400e-06	4.807690e-06
sol_thk_1_31	6.137820e-05	-7.336540e-06	4.926280e-05	-7.727560e-06	6.320840e-06	8.256410e-05
sol_thk_1_32	5.927560e-03	-3.762530e-04	6.551250e-03	-6.914140e-04	8.806920e-05	-8.690520e-02

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_thk_1_33	3.169680e-03	-2.081090e-04	3.818590e-03	-4.825030e-04	-2.476010e-04	-4.209180e-02
sol_thk_1_34	5.218210e-03	-8.742630e-04	5.881280e-03	-1.466850e-03	-2.133200e-04	-7.381810e-02
sol_thk_1_35	8.428210e-04	7.578530e-05	9.205130e-04	-9.701910e-06	-8.070550e-05	-5.482370e-04
sol_thk_1_36	3.895830e-04	3.388780e-05	4.037180e-04	1.060900e-06	2.570260e-05	-1.004230e-03
sol_thk_1_37	1.200000e-04	-1.193270e-05	1.074680e-04	-8.939100e-06	4.757630e-05	3.041990e-04
sol_thk_1_38	2.070290e-03	-4.781030e-04	2.184780e-03	-5.868460e-04	-1.345500e-04	1.142400e-02
sol_thk_1_39	5.171470e-04	-1.645830e-05	5.012820e-04	-3.451920e-05	9.304810e-06	4.315710e-04
sol_thk_1_40	2.757370e-04	1.777560e-05	2.480130e-04	-6.105770e-06	-1.678810e-05	-3.798720e-04
sol_thk_1_41	1.203850e-04	1.352570e-06	1.850320e-04	-5.291670e-06	-4.677660e-05	1.955130e-04
sol_thk_1_42	4.897120e-04	-2.310910e-06	4.385900e-04	-9.647430e-06	3.909900e-05	3.632920e-03
sol_thk_1_43	5.005450e-04	4.088780e-05	5.166350e-04	1.347110e-05	4.616660e-06	2.243210e-03
sol_thk_1_44	8.185900e-05	-3.019230e-06	7.339740e-05	-2.054490e-06	-7.698730e-07	1.883330e-04
sol_thk_1_45	2.122440e-04	1.265060e-05	2.340060e-04	7.621800e-06	-3.652240e-05	6.775960e-04
sol_thk_1_46	6.448720e-05	-7.179490e-07	8.983970e-05	-8.442310e-06	-2.189360e-05	-3.835900e-04
sol_thk_1_47	4.837820e-04	3.181730e-05	5.167310e-04	-4.337180e-05	-2.044330e-05	-5.351700e-03
sol_thk_2_01	1.976920e-04	2.799680e-05	1.750640e-04	9.647440e-06	2.174070e-05	-3.247120e-04
sol_thk_2_02	3.115060e-04	2.228210e-05	2.911540e-04	1.054810e-05	-2.122210e-05	-2.232400e-03
sol_thk_2_03	1.282720e-03	-1.217500e-04	1.012080e-03	-7.786540e-05	-3.462850e-05	1.037030e-02
sol_thk_2_04	5.032050e-05	7.016030e-06	6.035260e-05	3.721150e-06	-2.245100e-05	-3.535580e-04
sol_thk_2_05	1.641150e-03	1.400160e-04	1.495740e-03	9.261220e-05	-6.026060e-05	-6.550230e-03
sol_thk_2_06	1.634900e-03	7.379490e-05	1.727150e-03	1.062370e-04	-9.415000e-05	-9.161700e-03
sol_thk_2_07	2.314520e-03	5.850320e-05	2.202530e-03	1.022400e-04	-7.609420e-05	8.292020e-03

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_thk_2_08	2.897440e-05	5.871790e-06	3.509620e-05	3.977560e-06	-3.345510e-06	2.766030e-05
sol_thk_2_09	7.282050e-05	-1.977570e-06	6.455130e-05	-6.762810e-07	1.876730e-05	4.097120e-04
sol_thk_2_10	5.544870e-06	-1.000000e-06	1.282050e-05	2.230770e-06	8.302890e-06	1.657050e-05
sol_thk_2_11	2.739100e-04	1.362500e-05	3.008010e-04	-9.057690e-06	1.520900e-05	-2.927080e-03
sol_thk_2_12	6.411860e-04	-3.167950e-05	7.256410e-04	-8.993590e-06	-1.402440e-05	-1.691670e-04
sol_thk_2_13	4.520830e-04	-3.283010e-05	5.100960e-04	-4.435900e-05	-2.619780e-05	-3.518910e-04
sol_thk_2_14	2.909620e-04	7.439420e-05	3.224360e-04	2.499360e-05	-4.924520e-05	-1.329240e-02
sol_thk_2_15	4.064100e-05	5.634610e-06	3.166670e-05	5.653850e-06	-2.733980e-06	-5.011860e-04
sol_thk_2_16	1.148080e-04	-8.352560e-06	1.025960e-04	-1.782050e-06	-6.088140e-06	1.397440e-05
sol_thk_2_17	4.591030e-04	3.836220e-05	3.991030e-04	2.010580e-05	-6.325860e-05	-4.354360e-03
sol_thk_2_18	4.545450e-03	-3.647600e-04	3.421790e-03	-2.589620e-04	1.547850e-04	-9.681950e-03
sol_thk_2_19	1.206990e-03	8.437180e-05	9.973080e-04	1.788140e-05	-1.597560e-05	-5.302340e-03
sol_thk_2_20	6.699130e-03	5.121540e-04	6.329490e-03	4.489390e-04	-1.510660e-04	-4.439110e-02
sol_thk_2_21	2.790290e-03	3.655190e-04	2.894230e-03	1.188780e-04	-2.230130e-05	-8.191530e-02
sol_thk_2_22	4.570640e-03	1.001570e-04	4.399810e-03	1.683240e-04	-5.972980e-05	-2.822280e-02
sol_thk_2_23	5.700000e-04	9.853530e-05	5.865060e-04	8.563780e-05	-1.778050e-05	7.787180e-04
sol_thk_2_24	9.082370e-04	8.634630e-06	9.132050e-04	5.939750e-05	5.966020e-06	2.248970e-03
sol_thk_2_25	8.954170e-04	1.191570e-04	9.844870e-04	4.473080e-05	-8.768750e-05	2.254650e-03
sol_thk_2_26	1.144230e-05	1.474360e-07	3.910260e-06	-2.916670e-07	4.763460e-06	-2.564100e-06
sol_thk_2_27	6.099680e-04	8.650960e-05	6.189100e-04	5.896470e-05	-4.138720e-05	-3.935900e-05
sol_thk_2_28	2.858010e-04	3.682690e-05	3.136540e-04	2.773720e-05	-2.631830e-05	-3.954490e-04
sol_thk_2_29	3.685900e-06	-4.807690e-08	3.173080e-06	-2.147440e-07	1.570520e-07	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_thk_2_30	1.387820e-05	5.000000e-07	6.634620e-06	-3.557690e-07	8.868590e-06	-2.464740e-05
sol_thk_2_31	1.692310e-05	-1.378210e-06	1.900640e-05	-1.990380e-06	6.917950e-06	7.051280e-07
sol_thk_2_32	3.560160e-03	1.974620e-04	3.951440e-03	5.373720e-05	-6.780740e-06	-6.517820e-02
sol_thk_2_33	2.077080e-03	-4.540380e-05	2.451510e-03	-1.678590e-04	-1.116460e-04	-2.531500e-02
sol_thk_2_34	2.997600e-03	3.519230e-05	3.393270e-03	-2.963880e-04	-1.220570e-04	-6.072430e-02
sol_thk_2_35	7.660580e-04	1.538690e-04	7.111220e-04	3.246800e-05	-4.485580e-05	-8.056860e-03
sol_thk_2_36	3.556090e-04	5.100640e-05	3.610580e-04	1.650640e-05	-4.152240e-05	-1.962530e-03
sol_thk_2_37	1.049360e-04	-2.496790e-06	1.046150e-04	-4.551280e-07	-1.123010e-05	3.096510e-03
sol_thk_2_38	1.832820e-03	-2.997120e-05	1.596350e-03	-5.284940e-05	-1.533570e-04	2.648240e-03
sol_thk_2_39	5.007370e-04	3.665380e-05	4.317630e-04	1.389100e-05	-5.034330e-05	1.285030e-03
sol_thk_2_40	2.511220e-04	3.070510e-05	1.937500e-04	1.129490e-05	1.127340e-05	-6.693590e-04
sol_thk_2_41	1.248400e-04	7.019230e-06	1.452880e-04	3.259610e-06	-3.895830e-06	5.139740e-04
sol_thk_2_42	3.457370e-04	3.061860e-05	4.609290e-04	-1.554480e-06	-4.651700e-05	3.494130e-03
sol_thk_2_43	4.280770e-04	7.717310e-05	5.283970e-04	3.543590e-05	-8.565000e-05	1.533910e-03
sol_thk_2_44	6.500000e-05	3.714740e-06	6.711540e-05	2.500000e-06	-1.450420e-05	2.699680e-04
sol_thk_2_45	1.449040e-04	3.166670e-06	1.858970e-04	1.327240e-05	-4.064650e-05	1.218300e-03
sol_thk_2_46	4.826920e-05	-3.429480e-07	5.387820e-05	-1.551280e-06	1.650540e-05	-9.884620e-05
sol_thk_2_47	3.252880e-04	4.488140e-05	3.355770e-04	1.570520e-07	-2.410770e-05	-2.004810e-03
sol_thk_3_01	6.025640e-06	1.240380e-06	5.064100e-06	1.826920e-07	-1.530450e-06	-1.756410e-05
sol_thk_3_02	2.996470e-04	2.617950e-05	2.279810e-04	4.025640e-06	-3.480100e-05	-1.143850e-03
sol_thk_3_03	8.017950e-04	7.888460e-05	7.708330e-04	-4.647440e-06	-6.157280e-05	-6.449390e-03
sol_thk_3_04	4.195510e-05	5.291670e-06	4.416670e-05	6.923080e-07	-1.634810e-05	-2.365700e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_thk_3_05	5.121800e-04	5.419230e-05	4.972120e-04	3.083330e-06	-1.574420e-05	-4.577400e-03
sol_thk_3_06	4.943910e-04	1.992310e-05	5.305130e-04	1.359300e-05	-3.981150e-05	-4.122690e-03
sol_thk_3_07	7.352560e-04	1.956090e-05	7.499360e-04	-4.092950e-06	-6.447500e-05	-1.905030e-03
sol_thk_3_08	-3.205130e-08	3.076920e-07	-2.243590e-07	9.615420e-09	4.025640e-07	1.141030e-05
sol_thk_3_09	8.653850e-07	-7.948720e-07	1.346150e-06	-1.762820e-07	3.865380e-07	1.110580e-04
sol_thk_3_10	6.089740e-07	7.371790e-08	7.692310e-07	3.205180e-09	-1.548080e-07	-2.403850e-06
sol_thk_3_11	1.944870e-04	1.885260e-05	2.233010e-04	-2.051280e-07	-1.663910e-05	-3.377050e-03
sol_thk_3_12	5.287500e-04	1.137180e-05	5.298080e-04	-2.262820e-06	-4.420420e-05	-3.046090e-03
sol_thk_3_13	3.222440e-04	1.747120e-05	3.733010e-04	3.416670e-06	-4.192400e-05	5.363470e-04
sol_thk_3_14	7.083330e-06	-1.282050e-07	2.852560e-06	4.455130e-07	2.563780e-06	0.000000e+00
sol_thk_3_15	3.205130e-07	0.000000e+00	5.769230e-07	1.282050e-08	8.333330e-07	0.000000e+00
sol_thk_3_16	2.884620e-07	-3.205130e-08	1.089740e-06	2.564100e-08	1.746150e-06	0.000000e+00
sol_thk_3_17	3.200960e-04	6.463780e-05	2.820510e-04	5.535260e-06	9.559300e-06	-6.513110e-03
sol_thk_3_18	3.138110e-03	1.764290e-04	2.461150e-03	2.812500e-05	1.704190e-04	-4.236210e-02
sol_thk_3_19	9.462820e-04	1.201540e-04	8.078530e-04	2.796160e-05	-3.355710e-05	-4.708370e-03
sol_thk_3_20	2.130030e-03	4.246150e-05	2.127790e-03	1.210580e-05	6.726620e-06	-1.208140e-03
sol_thk_3_21	8.408980e-04	7.648080e-05	9.505770e-04	2.912500e-05	-9.521220e-05	-1.211620e-02
sol_thk_3_22	1.568620e-03	-7.321790e-05	1.544390e-03	1.099360e-06	-3.266660e-06	5.897620e-03
sol_thk_3_23	2.657050e-05	4.474360e-06	2.942310e-05	7.089740e-06	-4.451930e-07	1.628210e-05
sol_thk_3_24	2.054490e-05	5.288460e-06	4.983970e-05	3.467950e-06	-5.389740e-06	-3.076960e-06
sol_thk_3_25	2.349360e-05	6.650640e-06	4.535260e-05	4.583330e-06	-7.087820e-06	-1.323720e-04
sol_thk_3_26	3.205130e-07	0.000000e+00	-3.205130e-08	-6.410260e-08	5.185900e-07	0.000000e+00

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
sol_thk_3_27	2.259620e-05	1.663460e-06	3.801280e-05	5.083330e-06	-2.340380e-06	1.244550e-04
sol_thk_3_28	8.717950e-06	2.371790e-06	1.855770e-05	8.814100e-07	-4.898400e-06	-1.321150e-04
sol_thk_3_29	4.871790e-06	9.326930e-06	2.980770e-06	1.602560e-08	-2.852570e-07	-3.423080e-03
sol_thk_3_30	2.019230e-06	-2.660260e-07	4.358970e-06	2.051280e-07	-1.696150e-06	1.858970e-06
sol_thk_3_31	1.137820e-05	-3.205130e-07	9.102560e-06	-6.153850e-07	-4.124990e-07	-2.051280e-06
sol_thk_3_32	2.601410e-03	2.152500e-04	2.817150e-03	1.051730e-04	-4.015320e-05	-4.977920e-02
sol_thk_3_33	1.545350e-03	1.346250e-04	1.733080e-03	-1.627240e-05	-1.537720e-04	-3.385380e-02
sol_thk_3_34	2.150350e-03	2.336760e-04	2.385540e-03	1.033970e-05	-1.438270e-05	-4.712100e-02
sol_thk_3_35	1.301280e-05	3.865380e-06	1.657050e-05	1.375000e-06	-4.781090e-06	-1.026280e-04
sol_thk_3_36	8.878200e-06	7.147440e-07	5.673080e-06	-7.852560e-07	4.819870e-06	-5.750000e-05
sol_thk_3_37	7.051280e-07	-3.974360e-07	2.435900e-06	1.955130e-07	-9.291660e-07	2.839740e-05
sol_thk_3_38	1.094810e-03	2.729290e-04	9.350640e-04	5.282690e-05	3.565830e-05	-1.210030e-02
sol_thk_3_39	3.274360e-04	7.784300e-05	2.788780e-04	1.778210e-05	-2.010580e-06	-3.203720e-03
sol_thk_3_40	1.438460e-04	3.028210e-05	1.498720e-04	3.198720e-06	1.215380e-06	-5.941030e-04
sol_thk_3_41	7.051280e-06	-1.826920e-06	8.557690e-06	4.326920e-07	8.833330e-07	1.973400e-04
sol_thk_3_42	1.576920e-05	1.185890e-07	3.455130e-05	-1.428530e-05	-1.589710e-05	1.178850e-04
sol_thk_3_43	2.012820e-05	5.615380e-06	2.025640e-05	-2.820510e-07	1.355130e-06	-8.403850e-05
sol_thk_3_44	6.282050e-06	-2.852560e-07	4.455130e-06	8.557690e-07	-1.171470e-06	1.121790e-06
sol_thk_3_45	1.022440e-05	1.977560e-06	1.413460e-05	-4.823720e-06	-4.084300e-06	2.932690e-05
sol_thk_3_46	3.878200e-05	1.207050e-05	3.810900e-05	1.320510e-06	4.980450e-06	-3.462280e-03
sol_thk_3_47	2.161220e-04	4.804170e-05	2.248080e-04	1.346150e-06	-3.856470e-05	-7.267180e-03
surlag_01	0.000000e+00	2.179490e-06	0.000000e+00	1.676280e-06	0.000000e+00	-1.182690e-04

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
surlag_02	0.000000e+00	2.727560e-06	0.000000e+00	-8.012810e-08	0.000000e+00	-1.278850e-05
surlag_03	0.000000e+00	8.044870e-07	0.000000e+00	-1.612180e-06	7.692310e-08	-3.458330e-05
surlag_04	0.000000e+00	-3.205130e-08	0.000000e+00	1.054490e-06	0.000000e+00	0.000000e+00
surlag_05	0.000000e+00	2.262820e-06	0.000000e+00	-1.048080e-06	0.000000e+00	-1.513460e-04
surlag_06	0.000000e+00	1.349360e-06	0.000000e+00	1.027560e-05	-8.333330e-08	-8.006410e-05
surlag_07	0.000000e+00	7.371800e-06	7.051280e-07	5.253210e-06	-8.974360e-07	-5.518270e-04
surlag_08	0.000000e+00	-3.205130e-09	0.000000e+00	4.230770e-07	0.000000e+00	0.000000e+00
surlag_09	0.000000e+00	1.025640e-07	0.000000e+00	1.570510e-07	0.000000e+00	8.974360e-07
surlag_10	0.000000e+00	-2.019230e-07	0.000000e+00	-1.185900e-07	0.000000e+00	-2.756410e-06
surlag_11	0.000000e+00	2.756410e-06	0.000000e+00	4.198720e-07	0.000000e+00	-2.410260e-04
surlag_12	0.000000e+00	1.394230e-06	0.000000e+00	9.743580e-07	0.000000e+00	-2.301600e-04
surlag_13	0.000000e+00	-1.057690e-07	0.000000e+00	2.323720e-06	0.000000e+00	-1.111860e-04
surlag_14	0.000000e+00	-1.121800e-06	0.000000e+00	2.820510e-07	0.000000e+00	2.051280e-05
surlag_15	0.000000e+00	0.000000e+00	0.000000e+00	7.852560e-07	0.000000e+00	-1.794870e-05
surlag_16	0.000000e+00	0.000000e+00	0.000000e+00	9.294870e-07	0.000000e+00	0.000000e+00
surlag_17	0.000000e+00	-7.083340e-07	0.000000e+00	-5.352560e-07	0.000000e+00	-3.493590e-05
surlag_18	0.000000e+00	2.532050e-06	-9.615390e-08	1.666670e-06	8.012820e-08	-3.967950e-04
surlag_19	0.000000e+00	1.432690e-06	0.000000e+00	-5.608980e-07	0.000000e+00	-1.336220e-04
surlag_20	0.000000e+00	-2.820510e-06	-1.602560e-07	6.801280e-06	1.698720e-07	-1.630030e-03
surlag_21	0.000000e+00	-1.166670e-05	0.000000e+00	-2.291670e-06	-8.653850e-08	3.615380e-03
surlag_22	0.000000e+00	-3.794870e-06	-1.282050e-07	1.294870e-06	1.698720e-07	2.864550e-03
surlag_23	0.000000e+00	7.852560e-07	0.000000e+00	-3.397440e-07	0.000000e+00	-5.413460e-05

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
surlag_24	0.000000e+00	1.032050e-06	0.000000e+00	-2.849360e-06	0.000000e+00	-2.788450e-06
surlag_25	0.000000e+00	-1.064100e-06	0.000000e+00	-6.442310e-07	6.410260e-09	-2.897440e-05
surlag_26	0.000000e+00	0.000000e+00	0.000000e+00	4.166670e-07	0.000000e+00	0.000000e+00
surlag_27	0.000000e+00	-9.551290e-07	0.000000e+00	2.134620e-06	3.365380e-07	9.198740e-06
surlag_28	0.000000e+00	-1.060900e-06	0.000000e+00	1.272440e-06	-9.615380e-09	3.221150e-05
surlag_29	0.000000e+00	0.000000e+00	0.000000e+00	-4.166670e-08	0.000000e+00	0.000000e+00
surlag_30	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
surlag_31	0.000000e+00	0.000000e+00	0.000000e+00	-4.487180e-07	0.000000e+00	0.000000e+00
surlag_32	0.000000e+00	7.243590e-06	6.410260e-08	3.746790e-06	-8.974360e-08	-7.181730e-04
surlag_33	0.000000e+00	3.685900e-06	0.000000e+00	2.006410e-06	0.000000e+00	-1.766020e-04
surlag_34	0.000000e+00	-2.820510e-06	-4.871800e-06	3.028850e-06	6.019230e-06	7.596150e-05
surlag_35	0.000000e+00	1.987180e-06	0.000000e+00	-2.958330e-06	0.000000e+00	9.923080e-05
surlag_36	0.000000e+00	1.250000e-06	0.000000e+00	-1.266030e-06	0.000000e+00	2.375000e-05
surlag_37	0.000000e+00	1.217950e-06	0.000000e+00	1.080130e-06	0.000000e+00	-2.403850e-05
surlag_38	0.000000e+00	2.016030e-06	0.000000e+00	-2.092950e-06	-8.012820e-08	-2.055770e-04
surlag_39	0.000000e+00	3.365390e-07	0.000000e+00	1.538460e-07	7.692310e-08	-8.477560e-05
surlag_40	0.000000e+00	1.432690e-06	0.000000e+00	9.006410e-07	0.000000e+00	-1.401600e-04
surlag_41	0.000000e+00	1.080130e-06	0.000000e+00	8.141020e-07	0.000000e+00	-2.275640e-05
surlag_42	0.000000e+00	3.766030e-06	6.410260e-07	9.935870e-08	-8.301280e-07	-2.014740e-04
surlag_43	0.000000e+00	1.589740e-06	0.000000e+00	-9.038460e-07	-8.012820e-08	-5.455130e-05
surlag_44	0.000000e+00	-1.134620e-06	0.000000e+00	-1.307690e-06	0.000000e+00	1.830130e-05
surlag_45	0.000000e+00	2.016030e-06	0.000000e+00	-6.634610e-07	0.000000e+00	-6.570510e-06

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control file name	pretreat ET-precip ratio	pretreat discharge-precip ratio	post-treat ET-precip ratio	post-treat discharge-precip ratio	post-treat ET diff ratio	NSE
surlag_46	0.000000e+00	9.551280e-07	0.000000e+00	1.378210e-06	0.000000e+00	-2.583330e-05
surlag_47	0.000000e+00	2.483970e-06	0.000000e+00	-6.762820e-07	0.000000e+00	-5.301280e-05
surlag_v	0.000000e+00	8.794710e-06	-7.115380e-08	8.661920e-06	7.451920e-09	-1.584520e-03
topt_frsd	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
topt_frse	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00	0.000000e+00
topt_rnge	8.586620e-05	-9.397310e-06	6.827270e-05	-1.045800e-05	-2.014250e-05	5.360310e-04
trnsrch_v	0.000000e+00	-3.743930e-02	0.000000e+00	-4.141160e-02	0.000000e+00	1.602380e-01