DRAINAGE DESIGN MANAGEMENT SYSTEM FOR WINDOWS

VERSION 5.6.0

TUTORIAL # 23
UPDATING LOSSES FOR IMPORTED HEC-1 MODELS

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This document contains step-by-step tutorials for updating infiltration losses for imported HEC-1 models.

UPDATING LOSSES FOR IMPORTED HEC-1 MODELS

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UPDATING LOSSES FOR IMPORTED HEC-1 MODELS
DATE CREATED: MAY 17, 2018

This tutorial provides a working example in updating infiltration losses (i.e., Green-Ampt parameters) for imported HEC-1 Models. In this tutorial, a developed HEC-1 model file will be used. In order to update the losses (LG Card) in the model for all the sub-basin areas, three datasets are required. They are sub-basins, land use, and soils shapefiles. It is assumed that these three shapefiles have common projection systems so that when geoprocessing analyses are performed, no issues will be generated.

The following datasets are required in performing this tutorial:

1. HEC-1 Model file
2. Sub-basins dataset
3. Land Use dataset
4. Soils dataset

1.0 CREATE A FOLDER FOR MODEL RUNS *(FILE ➔ PROJECT PATHS)*

For this example, a new folder was created (i.e., "**H:\FCDMC\DDMSW560A\Modlruns\ImportAndUpdate")**.
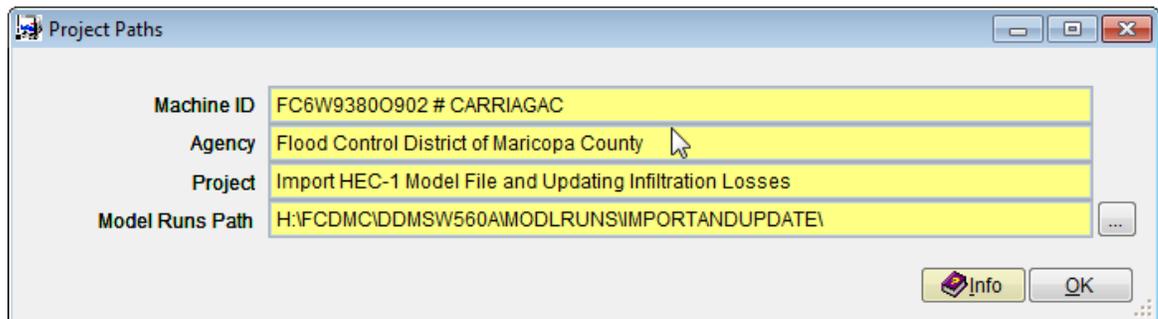
2.0 CREATE A NEW PROJECT *(FILE ➔ NEW PROJECT)*

Go to File ➔ New Project and select the "Import HEC-1 Input File" radio button. Click OK.
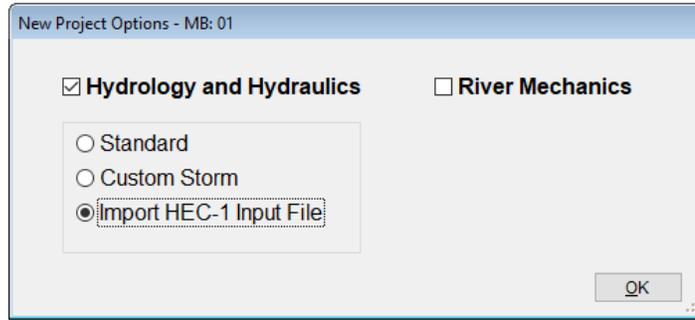
3.0 ENTER PROJECT INFO

On the Select Project form, enter the Project Info. For Reference, enter "IMPORTANDUPDATE". Click Save and OK.
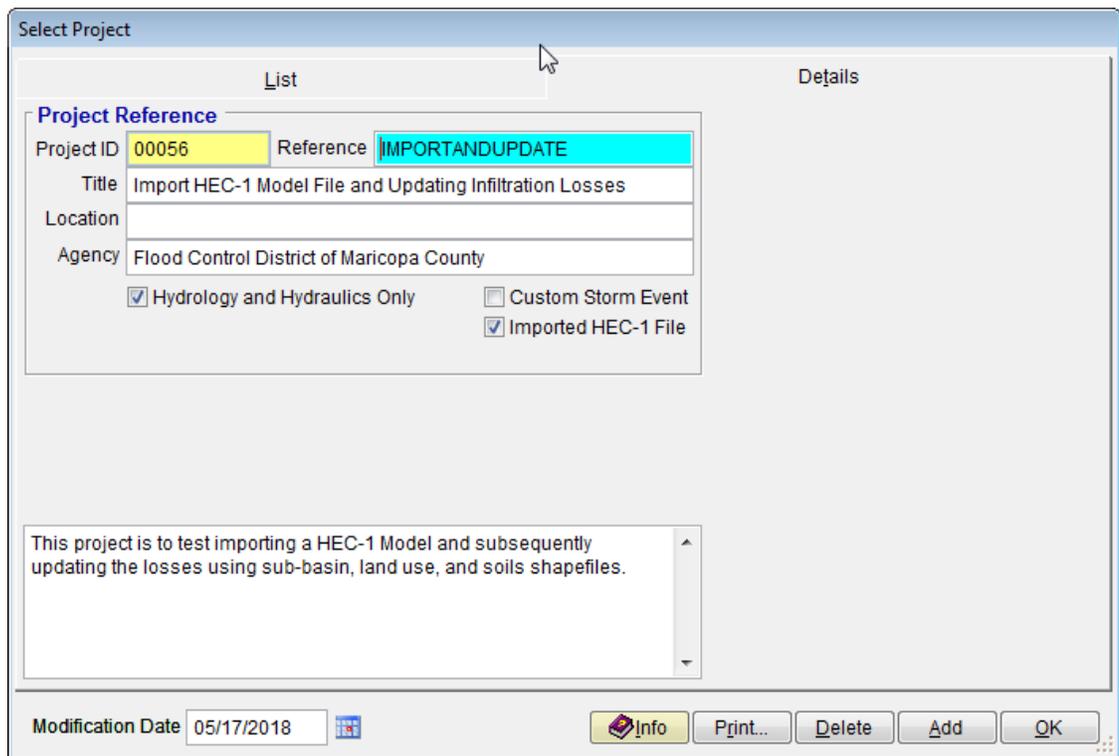
4.0 CHANGE MAJOR BASIN *(HYDROLOGY ➜ MAJOR BASINS)*

In this example, the default major basin ID is "01", however the major basin ID in the example is "MV". This was found in the Sub Basin shape file. After creating the project, the user needs to either change the default major basin ID from "01" to "MV" or add an additional major basin "MV" as follows:

Go to Hydrology➔Major Basins and change the default "01" to "MV"
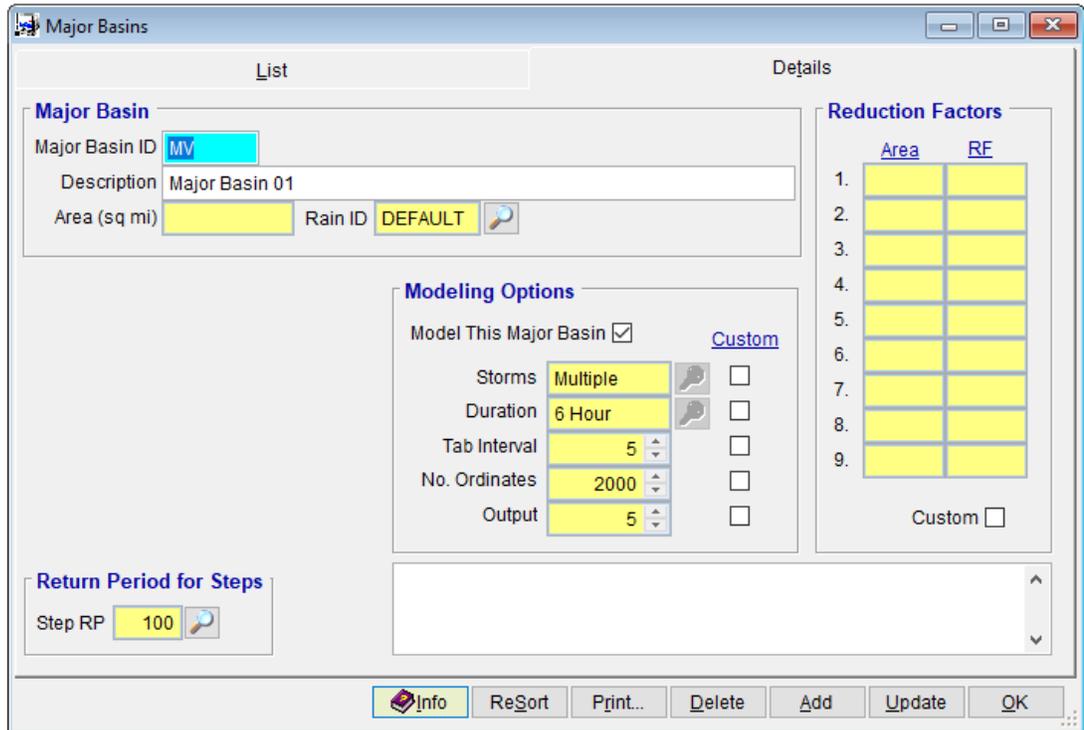
5.0   IMPORT HEC-1 FILE *(HYDROLOGY ➔ HEC-1 ➔ IMPORT HEC-1 FILE)*

Go to Hydrology➔HEC-1➔Import HEC-1 File.
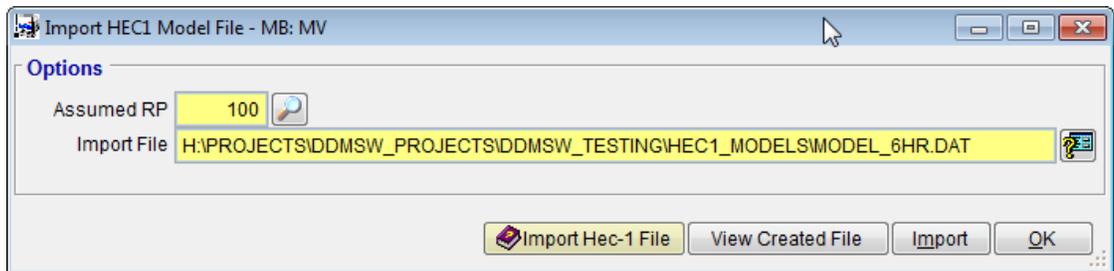
After locating the HEC-1 model file, click "Import".

6.0   CHANGE MODEL DEFAULTS *(FILE ➔ SELECT PROJECT)*

Go to File➔Select Project and uncheck "Custom Storm Event."
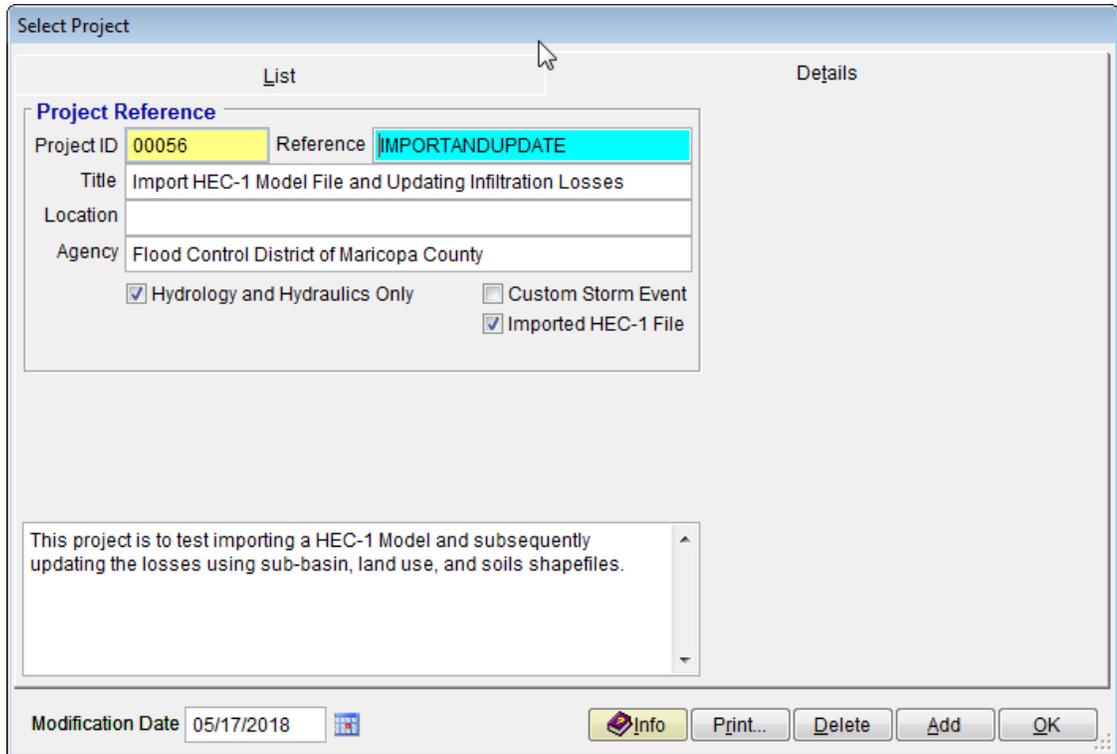
7.0   ENABLE UPDATING SUB BASIN DATA (*HYDROLOGY* ➔ *SUB BASINS*)

After importing the HEC-1 file, all the Custom Check boxes are checked on the Sub Basins form (Hydrology ➔ Sub Basins). These need to be unchecked to allow the data to be updated. Click the custom check box for "IA" and then click "Custom". This will uncheck all custom check boxes.
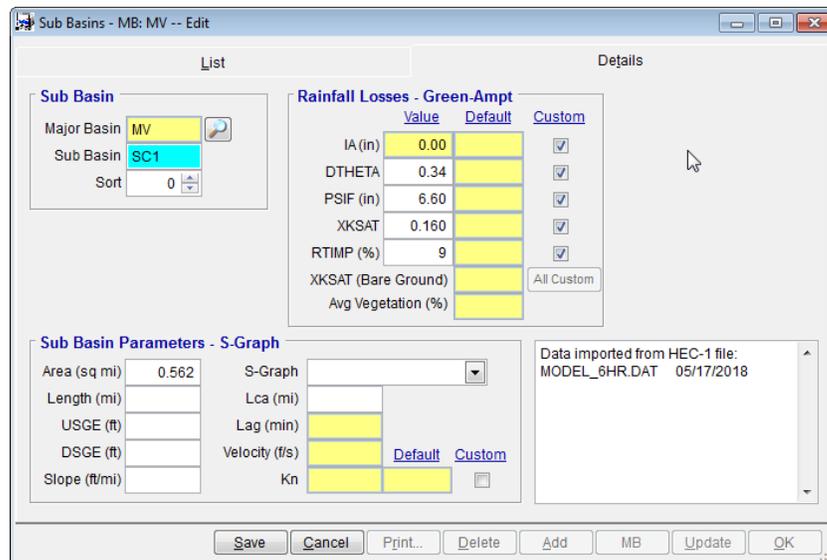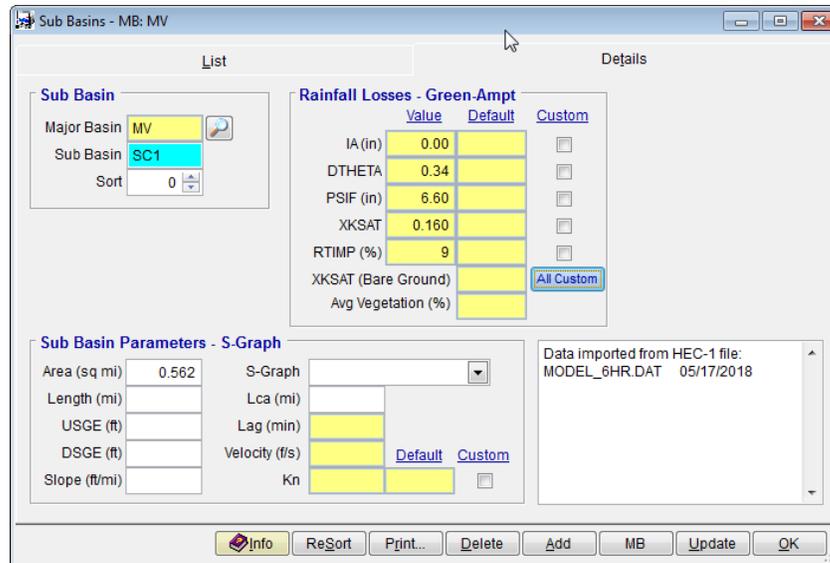
8.0   UPDATE LAND USE AND SOILS (*MAPS* ➔ *UPDATE HYDROLOGY*)

Go to Maps ➔Update Hydrology and enter the location of the Sub Basins, Land use, and Soils shapefiles and then click "Update".
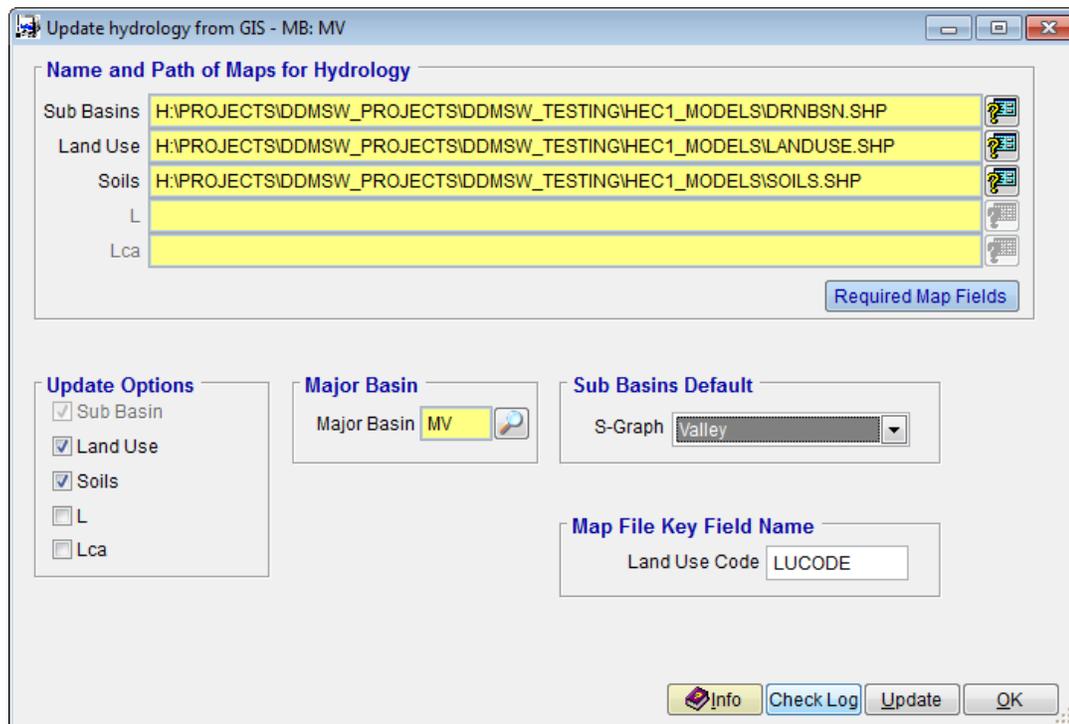
Because Tc is not updated, the sub basin data will not be updated here. The Land Use and Soils are updated.

9.0 UPDATE SUB BASINS DATA *(HYDROLOGY ➔ SUB BASINS)*

Go to Hydrology➔Sub Basins and click "Update".
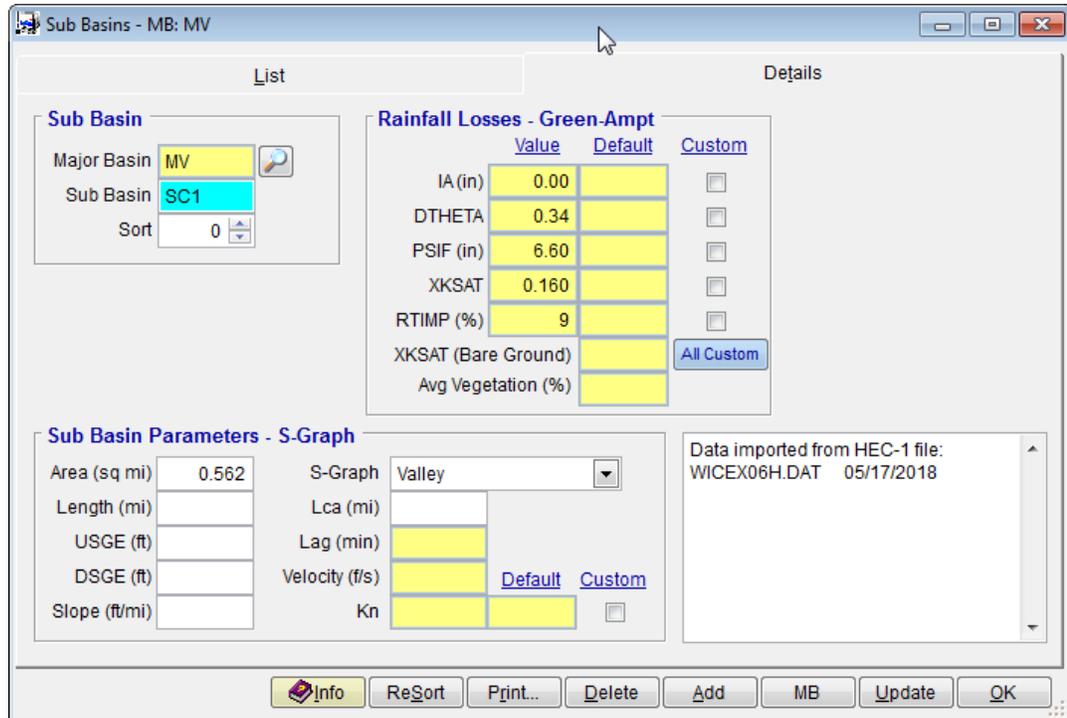
During the process, you may get a Warning Message about Slope as shown below. Ignore this message as this is irrelevant in the update of the infiltration losses.
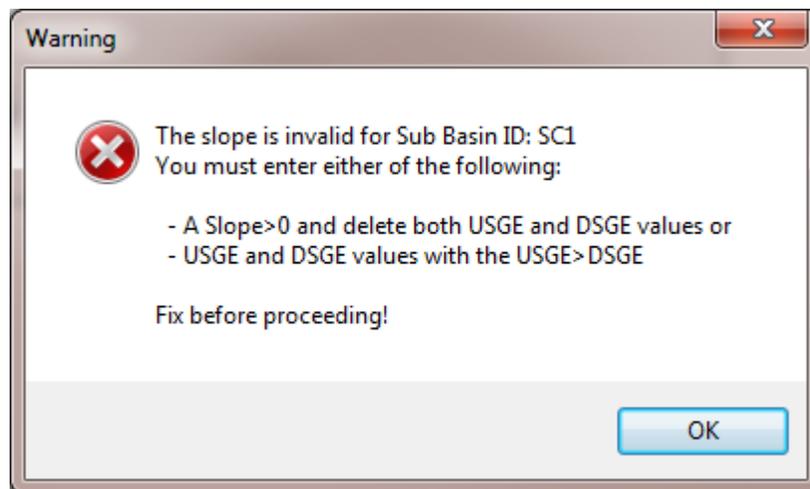
Also, you may get a message similar to the one below indicating that the update was not complete. Ignore this message as well as this is irrelevant to our goal of updating ONLY the infiltration losses.

Please Note

⚠ Update not complete!

OK
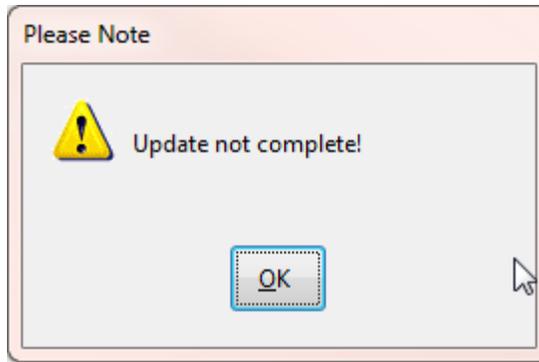
10.0 UPDATE HEC-1 DATA WITH NEW LOSS RATES (HYDROLOGY ➜ HEC-1 ➜ UPDATE HEC-1 LOSS RATE)

Go to Hydrology ➜HEC-1➜Update HEC-1 Loss Rate

If you do not see it, then go back to File➜Select Project and uncheck "Custom Storm Event".

Click "Update"

To facilitate review and comparison with the updated sub Basin data, click "Filter Loss Rate".

F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	Sort	Special Code ID
KK	SC1	BASIN									250	
LG	0.24	0.28	6.54	0.171	16						270	
KK	SC2	BASIN									400	
LG	0.31	0.23	6.54	0.151	8						420	
KK	SC3	BASIN									520	
LG	0.28	0.25	6.34	0.164	7						540	
KK	SC4	BASIN									700	
LG	0.33	0.25	7.00	0.121	22						720	
KK	SC5	BASIN									790	
LG	0.33	0.36	6.34	0.161	35						810	
KK	SC6	BASIN									1120	
LG	0.21	0.22	6.34	0.192	41						1140	
KK	SN1	BASIN									1240	
LG	0.28	0.27	6.00	0.191	19						1260	
KK	SN2	BASIN									1540	
LG	0.30	0.27	6.00	0.191	7						1560	

11.0 RUN MODEL (*HYDROLOGY* ➜ *HEC-1* ➜ *MODEL*)

Go to Hydrology➜HEC-1➜>Model

Note that with an Imported File, there is NO update of data.

This ends the tutorial.