VIII.3.3-DHM-OP DISTRIBUTED HYDROLOGIC MODELING OPERATION

Identifier: DHM-OP

Operation Number: 64

Developed by: HSEB, Office of Hydrologic Development

Array Entries: This Operation uses the P array to pass information on
the upstream and/or outlet basins and time series. The T array is
used to pass information about the specified time series. A single
carryover value is defined, but not used.

Parameter Array: The FORTRAN identifier used for the parameter array
is PO.

Note: The content of the PO array for positions 8 – 37 is based on the
number of inflows. The value in any non-used positions is -1.

K = number of inflows (0-5)
   Position   Contents

      1   Operation version number

     2-3   Time series identifier ('OUTLET')

      4   Time series data type code ('OUTLET')

      5   Time series data time interval ('OUTLET')

     6-7   Basin ID identifier ('OUTLET')

   (4*K+4)   Time series identifier ('INFLOW')
   (4*K+5)   Time series identifier ('INFLOW')

   (4*K+6)   Time series data type code ('INFLOW')

   (4*K+7)   Time series data time interval ('INFLOW')

   (2*K+26)   Basin ID identifier ('INFLOW')
   (2*K+27)   Basin ID identifier ('INFLOW')
      38   Number of Inflows

Carryover Array: The FORTRAN identifier used for the carryover array

is CO. The contents of the CO array are as follows:

Position	Contents
1	value of 1 (hard-coded)

T Array: The contents of the T array are as follows:

Position	Contents
1	Operation number
2	Location of the next Operation in the T array
3	Location of the parameters in the P array
4	Location of the time series data in the D array
5	Location of the output time series data in the T array
6	Location of the input time series data in the T array

Subroutines Names and Functions: The subroutines associated with this Operation are:

Subroutine	Function
PIN64	Input cards, makes checks and stores values in PO and CO arrays
TAB64	Makes Operation Table entries
PRP64	Print parametric data
PUC64	Output cards in the format which can be read by routine PIN64
EX64	Execute the Operation

Subroutines PIN64, PRP64 and PUC64 have the standard argument lists for these subroutines as given in Section VIII.4.3.

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SUBROUTINE PIN64(PO,LEFTP,IUSEP,CO,LEFTC,IUSEC)
```

Function: This is the input routine for Operation DHM-OP. This
routine fills the P array.

Argument List:

Variable	Input/ Output	Type	Dimension	Description
PO	Output	I*4	Variable	Array beginning at the portion of P array used by this Operation
LEFTP	Input	I*4	1	Space available in P for storage by PO
IUSEP	Output	I*4	1	Amount of space used by PO
CO	Output	R*4	1	real array dimensioned CO(*) which is used to store the initial values of the state variables
LEFTC	Input	I*4	1	maximum amount of space available for the CO array
IUSEC	Input	I*4	1	number of words of storage used for the CO array

SUBROUTINE TAB64 (OpArray,LEFT,IUSET,NXT,LPO,PO,LCO,TS,MTS,LWORK,IDT)

Function: This is the Operations Table entry subroutine for DHM-OP.

Argument List: The arguments are similar to the arguments for the
Operations Table entry subroutines for other Operations. A
description of the arguments is in Section VIII.4.2-TAB.

Operations Table Array: The contents of the OpArray array are:

    Position   Contents

       1   Operation number

       2   The location in the T array of the next Operation to
                 be executed

       3   Location of the PO array in the P array

       4   Location of the CO array in the C array:
                   0 = carryover not needed

       5   Location the output time series in the T array

       6   Location of the input time series in the T array

SUBROUTINE PRP64 (PO)

Function: This routine prints information about the time series that
is to be set by Operation DHM-OP.

Argument List:

	Input/			
Variable	Output	Type	Dimension	Description
PO	Input	R*4	Variable	Contains information for the time series to be set

SUBROUTINE PUC64 (PO)

Function: This is the card punch routine for Operation DHM-OP. This
routine punches the time series identifiers in the same format as the
input card for the Operation.

Argument List:

	Input/			
Variable	Output	Type	Dimension	Description
PO	Input	R*4	Variable	Contains information for the time series to be set

SUBROUTINE EX64 (PO,CO, dataArray,outputData,indicesToInputData)

Function: This is the execution subroutine for the Operation DHM-OP.

Argument List:

Variable	Input/ Output	Type	Dimension	Description
PO	Input	R*4	20	Parameter array
CO	Input	R*4	1	Carryover array
dataDarray	Output	R*4	1	output time series in the D array
InputDarray	Input	R*4	1	Input time series in the D array
indicesToInputData		Input	I*2 1	index of Input time series in D array