

VIII.3.3-TATUM TATUM ROUTING OPERATION

Identifier: TATUM

Operation Number: 13

Parameter Array: The FORTRAN identifier used for the parameter array for this Operation is P. The contents of the P array are as follows:

<u>Position</u>	<u>Contents</u>
1	Operation version number (integer)
2-6	General user supplied name for reach or point where the Operation is applied
7-8	Inflow time series identifier
9	Inflow time series data type
10	Inflow time series data time interval (units of HR)
11-12	Outflow time series identifier (blank if routing at a point)
13	Outflow time series data type (blank if routing at a point)
14	Outflow time series data time interval (units of HR) 0 = routing at a point
15	Carryover decision indicator (integer value): 0 = carryover set (default) 1 = carryover read in from data cards
16	Number of layers (NL) (integer value)
Remaining P array filled as follows (bottom layer always stored first):	
17	Number of TATUM coefficients per layer
17+NL	Upper limit of flow for each layer

The TATUM coefficients occupy the rest of the P array. The space required is the total number of coefficients for all layers.

Carryover Array: The FORTRAN identifier used for the carryover array is C. The contents of the C array are the inflows for each layer at previous times. The carryover is stored with the bottom layer first. For each layer, flows are stored with the most recent flow first.

Subroutine Names and Functions:

<u>Subroutine</u>	<u>Function</u>
PIN13	Input cards and stored values on the P and C array
PRP13	Print information in the P array
PRC13	Print information in the C array
EX13	Execute the TATUM coefficient routing Operation
COX13	Perform carryover transfer
PUC13	Punch information in the P and C array
TAB13	Operation table entry subroutine

Subroutines PIN13, PRP13, PRC13, PUC13 and COX13 have the standard argument lists for these subroutines as given in Section VIII.4.2.

SUBROUTINE EX13 (P,C,QIN,QOUT,R)

Function: This is the execution routine for the TATUM Operation.

Argument List:

<u>Argument</u>	<u>Input/ Output</u>	<u>Type</u>	<u>Dimension</u>	<u>Description</u>
P	Input	R*4	Variable	Contains parameters and other information
C	Input	R*4	Variable	Contains carryover values
QIN	Input	R*4	Variable	Inflow time series
QOUT	Output	R*4	Variable	Routed inflow time series
R	Input	R*4	Variable	Work space for temporary carryover <u>1/</u>

Note:

1/ The size of the R array must be the same size as the C array.

SUBROUTINE TAB13 (TO,LEFT,IUSET,NXT,LPO,PO,LCO,TS,MTS,NWORK,NDD,LWORK, IDT)

Function: This is the Operations Table entry routine for the TATUM Operation.

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

Operation Table Array: The contents of the TO array are:

<u>Position</u>	<u>Contents</u>
1	The number of this Operation
2	Location in the T array of the next Operation to be executed
3	Location of the parameter array for this Operation in the P array
4	Location of the carryover array for this Operation in the C array
5	Location of inflow data in the D array
6	Location of outflow data in the D array: 0 = routing at a point
7	Location of work space for routed inflow
8	Location of work space in the D array for changing the time interval: 0 = not needed
9	Location of work space for temporary carryover values