V.3.3-ADJUST-H  ADJUST STAGE OPERATION


Identifier:  ADJUST-H


Application:  All programs


Description:  This Operation creates an adjusted hourly stage time
series using the adjustments created by Operation STAGEREV.

Operation ADJUST-H applies average daily balances from Operation
STAGEREV to the mid-point of its associated hydrograph slice.
Balances applied to forecast stages between slice mid-points are
determined by linear interpolation (see Figure 1).

The forecast stages below Slice 1 mid-point and above Slice 4 mid-
point are assigned the average daily balance of slice 1 and 4
respectively.

The maximum run length is 30 days.


Developed by:  Northwest River Forecast Center


Allowable Data Time Intervals:  1 hour


Time Series Used:  Time series used in this Operation are as follows:

| General Type | Dimn | Units | Use | Required | Data Time Interval | Missing Values Allowed |
|---|---|---|---|---|---|---|
| Input stage | L | FT | I | yes | 1 | no |
| Range limit | L | FT | I | yes | 1 | no |
| Range1AveBal | L | FT | I | yes | 24 | no |
| Range2AveBal | L | FT | I | yes | 24 | no |
| Range3AveBal | L | FT | I | yes | 24 | no |
| Range4AveBal | L | FT | I | yes | 24 | no |
| Adjusted stage | L | FT | O | yes | 1 | no |


Input Summary:  The card input for this Operation is in free-format
and is as follows:

| Card | Field | Format | Contents |
|---|---|---|---|

| Card | Format | Columns | Contents |
|------|--------|---------|----------|
| 1 | 1 | A72 | User supplied information |
| 2 | | | Input time series definition: |
| | 1 | A8 | Input stage time series identifier |
| | 2 | A4 | Input stage time series data type code |
| | 3 | A8 | Range Limit time series identifier |
| | 4 | A4 | Range Limit time series data type code |
| 3 | | | Input/output time series definition: |
| | 1 | A8 | Range1 average daily stage balance time series identifier |
| | 2 | A4 | Range1 average daily stage balance time series data type code |
| | 3 | A8 | Range2 average daily stage balance time series identifier |
| | 4 | A4 | Range2 average daily stage balance time series data type code |
| | 5 | A8 | Range3 average daily stage balance time series identifier |
| | 6 | A4 | Range3 average daily stage balance time series data type code |
| | 7 | A8 | Range4 average daily stage balance time series identifier |
| | 8 | A4 | Range4 average daily stage balance time series data type code |
| | 9 | A8 | Adjusted time series identifier |
| | 10 | A4 | Adjusted time series data type code |

Sample Input and Output:  Sample input for this Operation is shown in
Figure 2.  Sample output from the parameter print routine is shown in
Figure 3.  There is no output from the execution routine.

Figure 1. Example of average balance linear interpolation

Average Balance        -1              0              1
                                                                        1
Slice 1                      o  1.5
                                        1.8, -.4                 – slice mid point
                                     X
                                                                        2
                                                    2.5
Slice 2                                        o         – slice mid point
                                                                        3
                                                                     (FT)
Slice 3                            o
                                                                        4
Slice 4                                o
                                     |
                                                                        5

<pre>
          Figure 2. Sample card input for Operation ADJUST-H



ADJUST-H    PRTO3
STAGE ADJUST
PRTO3ADJ SSTG RANGE     SSTG
SBALR1    SSTG SBALR2    SSTG SBALR3    SSTG SBALR4    SSTG PRTO3_FY SSTG




     Figure 3. Sample output from Operation ADJUST-H print parameter
                routine



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 ADJUST-H OPERATION     NAME=PRTO3        PREVIOUS NAME=

 ********************


          ADJUST STAGE- VERSION    1
          STAGE ADJUST


          INPUT TIME SERIES                 ID      CODE
             DW OBS/FCST  STAGE          PRTO3ADJ  SSTG
             RANGE LIMIT                 RANGE     SSTG
             AVE BALANCE RANGE1          SBALR1    SSTG
             AVE BALANCE RANGE2          SBALR2    SSTG
             AVE BALANCE RANGE3          SBALR3    SSTG
             AVE BALANCE RANGE4          SBALR4    SSTG

          PRIMARY OUTPUT TIME SERIES
             ADJUSTED STAGE TS           PRTO3_FY  SSTG
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