A Eastern Region Computer Programs
Problems NWS ERCP - No. 14

SLICK AND QUICK DATA ENTRY FOR AFOS ERA VERIFICATION (AEV) PROGRAM

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The Eastern Region Computer Programs and Problems (ERCP) series is a subset of the Eastern Region Technical Memorandum series. It will serve as the vehicle for the transfer of information about fully documented AFOS application programs. The format of ERCP - No. 1 will serve as the model for future issuances in this series.

1 An AFOS version of the Flash Flood Checklist. Cynthia M. Scott, March 1981. (PB81 211252).

2 An AFOS Applications Program to Compute Three-Hourly Stream Stages. Alan P. Blackburn, September 1981. (PB82 156886).

3 PUPPY (AFOS Hydrologic Data Reporting Program). Daniel P. Provost, December 1981. (PB82 199720).

4 Special Search Computer Program. Alan P. Blackburn, April 1982. (PB83 175455).

5 Conversion of ALEMBIC$ Workbins. Alan P. Blackburn, October 1982. (PB83 138313).

6 Real-Time Quality Control of SAOs. John A. Billet, January 1983. (PB83 166082).

7 Automated Hourly Weather Collective from HRR Data Input. Lawrence Cedrone, January 1983. (PB83 167122).

8 Decoders for FRH, FTJ and FD Products. Cynthia M. Scott, February 1983. (PB83 176057).

9 Stability Analysis Program. Hugh M. Stone, March 1983. (PB83 197947).

10 Help for AFOS Message Comp. Alan P. Blackburn, May 1983.

11 Stability and Other Parameters from the First Transmission RAOB Data. Charles D. Little, May 1983.

12 TERR, PERR, and BIGC: Three Programs to Compute Verification Statistics. Matthew R. Peroutka, August 1983.

13 A Decoder for Manually Digitized Radar Observations. Matthew R. Peroutka, June 1983.

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I. General Information

A. Summary

The two programs VF1 and VF2 enter missing forecast data and missing or corrected surface observations for the AFOS Era Verification (AEV) a single AFOS database product. VF1 creates and fills a preformat CCCMCPVFY from collated PVM and AVM files. VF2 reads CCCVFYCCC (created from CCCMCPVFY with message comp)and enters the data into the PVM and AVM files.

B. Environment

The programs run in the background of a WSFO and were written in Data General FORTRAN IV.

II. Application

A. The purpose of the programs is to enter forecast and observational data from a single AFOS database product. The original AEV programs require that anywhere from 2 to 6 different products be edited. Also when observational data are missed, they must be entered in 3 or 4 places in a file. With VF1 and VF2 it is okay to use PREV PAGE and the data needn't be right justified.

VF1 reads the CCCPVMXXX (Figure 1) and CCCAVMXXX files, extracts the pertinent data and inserts them into a preformat CCCMCPVFY. (See Figure 2 for sample MCP). Subroutine FIELD finds the data in CCCPVMXXX, since the temperature fields in the collated files are sometimes not filled with spaces or data. The operator then fills in the preformat using a M:VFYCCC command, adds the forecast data and checks or adds any erroneous or missing observations, and then stores the data into CCCVFYCCC. Figure 3 shows a filled in CCCVFYCCC.

VF2 uses the AFREAD subroutine to read CCCVFYCCC and enters the data in the proper places in the CCCPVMXXX and CCCAVMXXX files. An example of the output PVM is shown in Figure 4. Subroutines: RJUST right justifies data from the CCCVFYCCC file; FIELD finds the proper location in CCCPVMXXX; SPRED makes room for new temperature data in CCCPVMXXX.

B. Machines Requirements

VF1 requires 45 seconds to run with 3 stations and VF2 needs 60 seconds. VF1 uses 30 RDOS blocks of disk space and VF2 uses 31 blocks. The programs run in 32k of background space.

C. Data Base

Both VF1 and VF2 read VERDIR to get the node and the number and names of the stations verified. They also read CCCPVMXXX and CCCAVMXXX. VF1 creates an RDOS file A1VM as a work file prior to storing the data in CCCMCPVFY. VF2 creates 2 files for each station, A#VM and P#VM, which are used to store data into CCCAVMXXX and CCCPVMXXX. The RDOS files are left on disk when the program is done, and require a total of 12 blocks for each station verified. VF2 also reads CCCVFYCCC for input data.

III. Procedures

A. Initiation of the Program

You will need CCCMCPVFY and CCCVFYCCC in your database or wish list. MERGE and COLLATE should be run from an ADM before VF1:

1. RUN:MERGE
2. RUN: COLLATE
3. RUN:VF1
   When VF1 is done, it alerts the ADM console with "JOB VFY1 COMPLETE OUTPUT IN M:VFYCCC". Output is in CCCMCPVFY.
4. M:VFYCCC
   This brings the operator into message composition in CCCVFYCCC to enter forecast data and to quality control surface observations.
5. RUN:VF2
   When VF2 is done, it alerts the ADM console with "JOB VFY2 COMPLETE". Output is in CCCPVMXXX and CCCAVMXXX.

At Buffalo we use two macros to simplify the procedures:

```
VFY1.MC:          VFY2.MC:
  MERGE             VF2
  COLLATE           COLLATE/C
  VF1               VERDAT4
                    MOVE/R DP2 VERIT VERDIR VERBUF
                    DELETE A1VM P1VM A2VM P2VM
```

B. Error Messages

CCCVFYCCC: VF2 cannot open CCCVFYCCC. Edit CCCVFYCCC to create a new version

BAD PVM or BAD AVM: VF2 could not read a CCCPVMXXX or CCCAVMXXX. Purge the files from the data base, RUN:COLLATE/C, and rerun VF2

C. Cautions and Restrictions

If a cycle is skipped, the data will be entered in the wrong location of CCCPVMXXX and CCCAVMXXX when later cycles are run.

Peak gusts, and precipitation type from previous and following observations are not modified and are not accessible when you use VF1 and VF2. Only the 42 hour wind can be entered.

VF1 and VF2 will not run more than 3 stations because of dimensioning and the brackets in the lower right of page 2 of CCCMCPVFY.

D. Complete Program Listing Follows Figures.

Acknowledgements:

Ken Remington and Dave Sage for doing more than their usual share of the work when we were on shift together.
Bernie Schor at WSFO Boston for help in testing.

I/1134

Fig. 1
Sample input for VF1

```
BUFMCPPVM
WOUS00 KBUF 020000
 BUF                1202   0000  FCSTR 19              1201   1200  FCSTR 16
ELEMENT  PROJ       MOS    LOCAL  OBSERVED              MOS    LOCAL  OBSERVED
TEMP M/M 12-24       36      36                          22      22
DEG F    24-36       22      22                          39      37
         36-48       30      30                          20      23
24H/12H  48-60       24      25                          34      34

12H POP  12-24       70      70                          10      10
PERCENT  24-36       40      50                          60      40
         36-48        2      10                          20      20

POPT     18(+-1)     2                                   2       2       000  000
CTGY     30(+-1)     2                                   2       2
Z/F/L    42(+-1)     2                                   2       2

SNOW AMT 12-24       0       0                           0       0
CTGY/AMT

CLD AMT    12        4                   4               4       4           4
CTGY       18        4                                   4       4           4
           24        4                                   4       4           4       [ ]

                     1201   0000  FCSTR 09              1130   1200  FCSTR 14
ELEMENT  PROJ       MOS    LOCAL  OBSERVED              MOS    LOCAL  OBSERVED
TEMP M/M 12-24       32      34          31              24      24      24  24
DEG F    24-36       23      25          27              31      32          31
         36-48       38      38                          27      26
24H/12H  48-60       22      22                          39      35

12H POP  12-24       20      50          -2              30      40           0
PERCENT  24-36       20      30                          20      30          -2
         36-48       70      80                          20      30

POPT     18(+-1)     2       2       000  000            2       2       000
CTGY     30(+-1)     2       2       000  000            2       2       000
Z/F/L    42(+-1)     2       2                           2       2

SNOW AMT 12-24       0       0                           0       0           0
CTGY/AMT

CLD AMT    12        4       3           4               4       4           3
CTGY       18        3       3           4               4       4           2
           24        4       3           4               4       4           4
                                                                            [ ]
```

Fig. 2
Sample output from VF1

```
WOUS00 KBUF 999999
 12/02          MIDNIGHT SHIFT (00Z GUIDANCE)
               AVIATION FORECASTER [   ]
                   12Z | 18Z | 00Z | 06Z | 12Z | 18Z
PRECP TYP MOS        |  2  |     |  2  |     |  2
          BUF        | [ ] |     | [ ] |     | [ ]
SNOWFALL  MOS CTGY:  |     |  0  |     |     |
          BUF  AMT:  |     |[  ] |     |     |
CLOUDS    MOS    4  |  4  |  4  |     |     |
          BUF   [ ] | [ ] | [ ] |     |     |
WINDS     MOS        |     |     |     |     | 0104
          BUF        |     |     |     |     |[    ]

                   12Z | 18Z | 00Z | 06Z | 12Z | 18Z
PRECP TYP MOS        |  2  |     |  2  |     |  2
          SYR        | [ ] |     | [ ] |     | [ ]
SNOWFALL  MOS CTGY:  |     |  0  |     |     |
          SYR  AMT:  |     |[  ] |     |     |
CLOUDS    MOS    4  |  4  |  4  |     |     |
          SYR   [ ] | [ ] | [ ] |     |     |
WINDS     MOS        |     |     |     |     | 2909
          SYR        |     |     |     |     |[    ]                    [ ]
      OBSERVATIONS:  FILL IN THE BLANKS   DATE:  12/02
                  CIG   VSBY  CLD AMT  WIND  PRECIP  MAX TEMP  SNOWFALL
BUF   00Z        [23] [800]   [4]   [3016] [  -2] [ 31]     [  ]
        03Z        [34] [800]                PRECIP TYPE
      06Z        [24] [800]   [4]   [2712] [000]   [   ]
      09Z        [18] [800]

                  CIG   VSBY  CLD AMT  WIND  PRECIP  MAX TEMP  SNOWFALL
SYR   00Z        [50] [700]   [4]   [2607] [   1] [ 35]     [ 0]
        03Z        [50] [700]                PRECIP TYPE
      06Z        [32] [700]   [4]   [2412] [020]   [ 35]
      09Z        [32] [700]

CEILING:       7=7 HND       80=8 THSD   96=ABV 9 THSD  97=NO CIG
VISIBILITY:    225=21/4      700= 7      37=3/8 MILES
CLOUD AMOUNT:  1=CLR OR -X   2=SCT       3=BKN          4=OBSCURED OR OVC
PRECIP:        -2=TRACE      7=.07       118=1.18 INCH
PRECIP TYPE:   100=FREEZING  020=FROZEN  003=LIQUID     120= ZL-S
SNOWFALL IN INCHES
               [ ]
```

Fig. 3

sample input for VF2

```
WOUS00 KBUF 021800
 12/02          MIDNIGHT SHIFT (00Z GUIDANCE)
              AVIATION FORECASTER  19
                    12Z | 18Z | 00Z | 06Z | 12Z | 18Z
PRECP TYP MOS         | 2 |     | 2 |     | 2
          BUF         | 2 |     | 2 |     | 2
SNOWFALL  MOS CTGY:   |   | 0   |   |     |
          BUF  AMT:   |   | 0   |   |     |
CLOUDS    MOS   4     | 4 | 4   |   |     |
          BUF   4     | 4 | 4   |   |     |
WINDS     MOS         |   |     |   |     | 0104
          BUF         |   |     |   |     | 0104

                    12Z | 18Z | 00Z | 06Z | 12Z | 18Z
PRECP TYP MOS         | 2 |     | 2 |     | 2
          SYR         | 2 |     | 2 |     | 2
SNOWFALL  MOS CTGY:   |   | 0   |   |     |
          SYR  AMT:   |   | 0   |   |     |
CLOUDS    MOS   4     | 4 | 4   |   |     |
          SYR   4     | 4 | 4   |   |     |
WINDS     MOS         |   |     |   |     | 2909
          SYR         |   |     |   |     | 2909

      OBSERVATIONS:  FILL IN THE BLANKS   DATE:  12/02
                  CIG   VSBY  CLD AMT  WIND  PRECIP  MAX TEMP  SNOWFALL
BUF   00Z          23    800      4    3016     -2       31        0
      03Z          34    800                PRECIP TYPE
      06Z          24    800      4    2712    000       31
      09Z          18    800

                  CIG   VSBY  CLD AMT  WIND  PRECIP  MAX TEMP  SNOWFALL
SYR   00Z          50    700      4    2607     -2       35        0
      03Z          50    700                PRECIP TYPE
      06Z          32    700      4    2412    020       35
      09Z          32    700

CEILING:       7=7 HND        80=8 THSD    96=ABV 9 THSD  97=NO CIG
VISIBILITY:    225=21/4       700= 7       37=3/8 MILES
CLOUD AMOUNT:  1=CLR OR -X    2=SCT        3=BKN          4=OBSCURED OR OVC
PRECIP:        -2=TRACE       7=.07        118=1.18 INCH
PRECIP TYPE:   100=FREEZING   020=FROZEN   003=LIQUID     120= ZL-S
SNOWFALL IN INCHES
```

Fig. 4 - Sample Output from VF2

```
BUFMCPPVM
WOUS00 KBUF 020000
 BUF                1202   0000  FCSTR 19                1201   1200  FCSTR 16
ELEMENT   PROJ      MOS    LOCAL   OBSERVED               MOS    LOCAL   OBSERVED
TEMP M/M 12-24       36      36                            22      22
DEG F    24-36       22      22                            39      37
         36-48       30      30                            20      23
24H/12H  48-60       24      25                            34      34

12H POP  12-24       70      70                            10      10
PERCENT  24-36       40      50                            60      40
         36-48        2      10                            20      20

POPT     18(+-1)     2       2                             2       2       000  000
CTGY     30(+-1)     2       2                             2       2
Z/F/L    42(+-1)     2       2                             2       2

SNOW AMT 12-24       0       0                             0       0
CTGY/AMT

CLD AMT    12        4       4          4                  4       4          4
CTGY       18        4       4                             4       4          4
           24        4       4                             4       4          4       [ ]

                     1201   0000  FCSTR 09                1130   1200  FCSTR 14
ELEMENT   PROJ      MOS    LOCAL   OBSERVED               MOS    LOCAL   OBSERVED
TEMP M/M 12-24       32      34      31   31               24      24      24   24
DEG F    24-36       23      25           27               31      32      31   31
         36-48       38      38                            27      26
24H/12H  48-60       22      22                            39      35

12H POP  12-24       20      50          -2                30      40           0
PERCENT  24-36       20      30                            20      30          -2
         36-48       70      80                            20      30

POPT     18(+-1)     2       2       000  000              2       2       000
CTGY     30(+-1)     2       2       000  000              2       2       000
Z/F/L    42(+-1)     2       2                             2       2       000

SNOW AMT 12-24       0       0           0                 0       0           0
CTGY/AMT

CLD AMT    12        4       3           4                 4       4           3
CTGY       18        3       3           4                 4       4           2
           24        4       3           4                 4       4           4
                                                                                 [ ]

                     1130   0000  FCSTR 13                1129   1200  FCSTR 14
ELEMENT   PROJ      MOS    LOCAL   OBSERVED               MOS    LOCAL   OBSERVED
TEMP M/M 12-24       37      35      32   32               28      28      28   29
DEG F    24-36       26      26      24   24               39      35      32   32
         36-48       33      33      31   31               23      25      24   24
24H/12H  48-60       23      23                            31      32      31   31

12H POP  12-24       40      60          71                30      40          11
PERCENT  24-36       40      40           0                40      80          71
         36-48       30      40          -2                40      40           0

POPT     18(+-1)     2       2       020  020              2       2       020  020
CTGY     30(+-1)     2       2       000                   2       2       020  020
Z/F/L    42(+-1)     2       2       000                   2       2       000

SNOW AMT 12-24       0       2           7                 0       2           1
CTGY/AMT

CLD AMT    12        4       4           4                 4       4           4
CTGY       18        4       4           4                 4       4           4
           24        4       4           3                 4       4           4
                                                                                 [ ]
```

```
C     PROGRAM VF1.FR   11/30/83                    REV 01.00
C     NOV 1983              BLACKBURN, ALAN        WSFO BUF  FTS 437-4800
C     FORTRAN IV/ REV 5.20  DG ECLIPSE (S230)      RDOS/ REV 6.17
C     LOAD LINE:  RLDR VF1 FIELD BG.LB UTIL.LB FORT.LB AFOSE.LB
C     PURPOSE
C         READS AVM AND PVM FILES AND CREATES A PREFORMAT FOR SIMPLE
C         DATA ENTRY
C     EXTERNALS
C         FIELD  GCHN  OPENR
C         RDS  KLOSE  KSRCF
C         RDBKF  NXBKF  DFILW
C         CRAND  OPEN  WRS
C         UNPACK   RESET
C         FSTORE  FORKO
C     CHANNELS/FILES
C         IC - CHANNEL TO READ VERDIR
C         IC - CHANNEL TO WRITE TO A1VM
C     VARIABLES
C         IHDR              - HEADING FOR DATABASE STORAGE, COM/HDR
C         MID1, MID2        - ALTERNATE TITLES FOR MIDNIGHT SHIFT COMM/HDR
C         MA THROUGH MW     - PREFORMAT FOR OUTPUT COMM/FORM1 TO FORM4
C         IU                - UNPACKED PVM DATA  FOR FIELD SUBROUTINE
C         PVM               - DATA FROM PVMFILES
C         AVM               - DATA FROM AVM FILES
C         STNS              - DATA FROM VERDIR FILE
C         PKEY              - TITLES OF FILES TO BE READ
C
C
C
C
C
      COMMON/HDR/IHDR(20),MID1(22),MID2(17),
      COMMON/FORM1/MA(23),MB(20),MC(26),MD(26),ME(26),MF(24),MG(24)
      COMMON/FORM2/MH(24),MI(24),MJ(27),MK(41),ML(28),MM(36),MN(35)
      COMMON/FORM3/MO(27),MP(29),MQ(41),MR(33),MS(28),MT(37),MU(28)
      COMMON/FORM4/MV(10),MW(33)
      DIMENSION IBUF(128), KREC(20), IU(2048)
      INTEGER PVM(512,3), AVM(256,3), STNS(12), PKEY(5)
C
      DATA IHDR/"CCCMCPVFY000",177777K,177777K,2400K,142600K,
     &"WOUS00 KCCC 999999",6412K/
      DATA MID1/"                MIDNIGHT SHIFT (00Z GUIDANCE)"/
      DATA MID2/"12Z ! 18Z ! 00Z ! 06Z ! 12Z ! 18Z "/
      M=6412K
C
C
C
C
C
      DATA MA/"          DAY OR EVENING SHIFT (12Z GUIDANCE)",6412K/
      DATA MB/"              AVIATION FORECASTER [   ] ",6412K/
      DATA MC/"                 00Z ! 06Z ! 12Z ! 18Z ! 00Z ! 06Z ",
     &6412K/
      DATA MD/"PRECP TYP MOS       !     !     !     !     !     ",
     &6412K/
      DATA ME/"          STN       ! [ ] !     ! [ ] !     ! [ ] ",
     &6412K/
      DATA MF/"SNOWFALL  MOS CTGY: !     !     !     !     ! ",6412K/
      DATA MG/"          STN  AMT: !     ![   ] !     !     ! ",6412K/
      DATA MH/'CLOUDS    MOS       !     !     !     !     ! ",6412K/
```

```
      DATA MI/"          STN   [ ] | [ ] | [ ] |     |     | ",6412K/
      DATA MJ/"WINDS     MOS       |     |     |     |     |       ",
     &6412K/
      DATA MK/"          STN       |     |     |     |     |[    ] ",
     &6412K/
C
C
C
C
      DATA ML/"      OBSERVATIONS:  FILL IN THE BLANKS   DATE:  MM/DD",
     &6412K/
      DATA MM/"                CIG   VSBY  CLD AMT  WIND  PRECIP  MIN ",
     &"TEMP  SNOWFALL",6412K/
      DATA MN/"STN   12Z      [  ] [   ]  [ ]  [    ] [    ] [  ",
     &" ]    [  ] ",6412K/
      DATA MO/"      15Z      [  ] [   ]               PRECIP TYPE",
     &6412K/
      DATA MP/"      18Z      [  ] [   ]  [ ]  [    ] [   ]  [  ",
     &" ]",6412K/
      DATA MQ/"      21Z      [  ] [   ]",6412K/
C
      DATA MR/"CEILING:      7=7 HND       80=8 THSD   96=ABV 9 THSD ",
     &" 97=NO CIG",6412K/
      DATA MS/"VISIBILITY:   225=21/4      700= 7      37=3/8 MILES  ",
     &6412K/
      DATA MT/"CLOUD AMOUNT: 1=CLR OR -X   2=SCT       3=BKN         ",
     &" 4=OBSCURED OR OVC",6412K/
      DATA MU/"PRECIP:       -2=TRACE      7=.07       118=1.18 INCH ",
     &6412K/
      DATA MV/"SNOWFALL IN INCHES",6412K/
      DATA MW/"PRECIP TYPE:  100=FREEZING  020=FROZEN  003=LIQUID    ",
     &" 120= ZL-S",6412K/
C
C
C
C
C.....GET NODE AND STATIONS FROM VERDIR
      CALL GCHN(IC,IER)
      CALL OPENR(IC,"VERDIR",IER)
      CALL RDS(IC,STNS,24,IER)                ; NODE IN WORDS 1,2  STATIONS
      CALL KLOSE(IC,IER)                      ; IN 5-12
      NSTN=STNS(3)
C
C
C
C.....READ IN AVM'S, PVM'S
      PKEY(1)=STNS(1)
      PKEY(2)=STNS(2)                         ; PUT NODE IN PKEY
      PKEY(3)="VM"
      DO 100 I=1,NSTN
        PKEY(4)=STNS(2*(I-1)+5)               ; PUT STN IN PKEY
        PKEY(5)=IAND(177400K,STNS(2*(I-1)+6))
C
C
C
        PKEY(2)=IAND(177400K,PKEY(2))+65      ; PUT IN "A" FOR AVM
        CALL KSRCF(PKEY,KREC,IER)             ; GET KEY RECORD
        CALL RDBKF(0,IBUF,IER)                ; READ AVM
        DO 20 K=14,128
   20   AVM((K-13),I)=IBUF(K)                 ; PUT 1ST BLOCK IN AVM
```

```
      CALL NXBKF(IBUF,IER)                    ; READ NEXT AFOS BLOCK
      DO 30 K=3,128
   30 AVM((113+K),I)=IBUF(K)                  ; PUT IT IN AVM
      IF(AVM(1,I).NE."OU")GOTO 50             ; CHECK FOR NON-COLLATE AVM
      DO 40 J=10,251
   40 AVM((J-9),I)=AVM(J,I)                   ; ELIMINATE WOUS LINE
C
C
   50 PKEY(2)=IAND(177400K,PKEY(2))+80        ; PUT IN "P" FOR PVM
      CALL KSRCF(PKEY,KREC,IER)               ; READ PVM'S
      CALL RDBKF(0,IBUF,IER)
      DO 60 K=14,128
   60 PVM((K-13),I)=IBUF(K)                   ; PUT 1ST BLOCK IN PVM
      DO 70 J=1,2
        CALL NXBKF(IBUF,IER)                  ; READ NEXT AFOS BLOCK
        DO 65 K=3,128
   65   PVM((J*126+K-13),I)=IBUF(K)           ; PUT IN PVM
   70 CONTINUE
      IF(PVM(1,I).NE."OU")GOTO 100            ; CHECK FOR NON-COLLATE PVM
      DO 80 J=10,367
   80 PVM((J-9),I)=PVM(J,I)                   ; ELIMINATE WOUS LINE
  100 CONTINUE
C
C
C.....OUTPUT TO MCPVFY
      CALL GCHN(IC,IER)
      CALL DFILW("A1VM",IER)                  ; GET OUTPUT FILE READY
      CALL CRAND("A1VM",IER)
      CALL OPEN(IC,"A1VM",0,IER)
C
C
C
      IHDR(1)=PKEY(1)                         ; PUT NODE IN HEADER
      IHDR(2)=IAND(177400K,PKEY(2))+77
      IHDR(15)=PKEY(1)
      IHDR(16)=IAND(177400K,PKEY(2))+32
      CALL WRS(IC,IHDR,40,IER)
C
C
C
      IF(AVM(6,1).NE."00")GOTO 110            ; CHECK FOR MIDNIGHT SHIFT
      DO 105 I=1,22
  105 MA(I)=MID1(I)                           ; PUT IN MID SHIFT HEADER
  110 MA(1)=20000K+IAND(377K,AVM(3,1))        ; WRITE MONTH
      MA(2)=IAND(177400K,AVM(4,1))+47         ;   AND /
      MA(3)=ISHFT(AVM(4,1),8)+ISHFT(AVM(5,1),-8) ; WRITE DAY
      CALL WRS(IC,MA,46,IER)
C
C
C
C.....AVIATION FORECASTER LINE
      MB(18)=ISHFT(AVM(8,1),8)+ISHFT(AVM(9,1),-8) ; WRITE AVTN FCSTR #
      CALL WRS(IC,MB,40,IER)
C
C
C
      DO 180 I=1,NSTN
        CALL UNPACK(PVM(1,I),512,IU)
C
C
```

```
C
C.........TIMES LINE
         IF(AVM(6,1).NE."00")GOTO 120          ; CHECK FOR MID SHIFT
         DO 115 J=1,17
  115    MC(J+8)=MID2(J)
  120    CALL WRS(IC,MC(1),52,IER)
C
C
C
C.........PRECIPITATION TYPE
         CALL FIELD(IU,57,1,LB)                ; GET BYTE # OF FIELD
         MD(12)=20000K+IU(LB)                  ; WRITE MOS GUIDANCE
         CALL FIELD(IU,8,LB,LC)
         MD(18)=20000K+IU(LC)
         CALL FIELD(IU,8,LC,LB)
         MD(24)=20000K+IU(LB)
         CALL WRS(IC,MD(1),52,IER)
         ME(6)=STNS(2*(I-1)+5)                 ; PUT IN STATION
         ME(7)=STNS(2*(I-1)+6)
         CALL WRS(IC,ME(1),52,IER)
C
C
C
C..........SNOW AMOUNT
         CALL FIELD(IU,8,LB,LC)
         MF(15)=20000K+IU(LC)
         CALL WRS(IC,MF(1),48,IER)
         MG(6)=STNS(2*(I-1)+5)
         MG(7)=STNS(2*(I-1)+6)
         CALL WRS(IC,MG(1),48,IER)
C
C
C
C..........CLOUDS
         CALL FIELD(IU,6,LC,LB)
         MH(9)=20000K+IU(LB)                   ; PUT IN MOS GUIDANCE
         CALL FIELD(IU,6,LB,LC)
         MH(12)=20000K+IU(LC)
         CALL FIELD(IU,6,LC,LB)
         MH(15)=20000K+IU(LB)
         CALL WRS(IC,MH(1),48,IER)
         MI(6)=STNS(2*(I-1)+5)
         MI(7)=STNS(2*(I-1)+6)
         CALL WRS(IC,MI(1),48,IER)
C
C
C..........WINDS
C        MJ(9)=ISHFT(AVM(91,I),8)+ISHFT(AVM(92,I),-8)
C        MJ(10)=ISHFT(AVM(92,I),8)+ISHFT(AVM(93,I),-8)
C        MJ(12)=ISHFT(AVM(111,I),8)+ISHFT(AVM(112,I),-8)
C        MJ(13)=ISHFT(AVM(112,I),8)+ISHFT(AVM(113,I),-8)
C        MJ(18)=ISHFT(AVM(131,I),8)+ISHFT(AVM(132,I),-8)
C        MJ(19)=ISHFT(AVM(132,I),8)+ISHFT(AVM(133,I),-8)
         MJ(24)=ISHFT(AVM(151,I),8)+ISHFT(AVM(152,I),-8)
         MJ(25)=ISHFT(AVM(152,I),8)+ISHFT(AVM(153,I),-8)
         CALL WRS(IC,MJ(1),54,IER)
C
C
         MK(6)=STNS(2*(I-1)+5)
         MK(7)=STNS(2*(I-1)+6)
```

```
C       MK(9)=AVM(94,I)
C       MK(10)=AVM(95,I)
C       MK(12)=AVM(114,I)
C       MK(13)=AVM(115,I)
C       MK(18)=AVM(136,I)
C       MK(19)=AVM(137,I)
        IF(I.EQ.2)GOTO 150                    ; CHECK FOR BOTTOM OF MCP
        CALL WRS(IC,MK(1),52,IER)
        CALL WRS(IC,M,2,IER)
        GOTO 180
  150   MK(39)=20000K+91                      ; PUT [ ] AT END OF THE LINE
        MK(40)=20000K+93
        DO 160 J=27,38
  160   MK(J)=20040K
        CALL WRS(IC,MK(1),80,IER)
  180 CALL WRS(IC,M,2,IER)
C
C
C
C...........OBSERVATION SECTION
C
C...........TITLE/DATE LINE
      ML(25)=MA(1)
      ML(26)=MA(2)
      ML(27)=MA(3)
      CALL WRS(IC,ML,56,IER)
      DO 300 I=1,NSTN
C
C
C...........GET DATA FROM PVM INTO MB
        CALL UNPACK(PVM(1,I),1792,IU)
        CALL FIELD(IU,63,1,LB)                ; 18Z PRECIP TYPE
          MP(23)=ISHFT(IU(LB),8)+IU(LB+1)
          MP(24)=ISHFT(IU(LB+2),8)+93
        CALL FIELD(IU,29,LB,LC)               ; 12Z CLOUD AMOUNT
          MN(16)=ISHFT(IU(LC),8)+93
        CALL FIELD(IU,6,LC,LB)                ; 18Z CLOUD AMOUNT
          MP(16)=ISHFT(IU(LB),8)+93
        CALL FIELD(IU,15,LB,LC)               ; 18 HOUR MINIMUM
          MP(27)=ISHFT(IU(LC),8)+IU(LC+1)
          MP(28)=ISHFT(IU(LC+2),8)+93
          IF(IU(LC).EQ.11K)MP(27)="  "
          IF(IU(LC).EQ.11K)MP(28)=" ]"
          LB=LC
        CALL FIELD(IU,1,LB,LC)                ; 12Z MINIMUM TEMPERATURE
          MN(27)=ISHFT(IU(LC),8)+IU(LC+1)
          MN(28)=ISHFT(IU(LC+2),8)+93
          IF(IU(LC).EQ.11K)MN(27)="  "
          IF(IU(LC).EQ.11K)MN(28)=" ]"
        CALL FIELD(IU,31,LC,LB)               ; 12Z PRECIPITATION
          MN(23)=ISHFT(IU(LB),8)+IU(LB+1)
          MN(24)=ISHFT(IU(LB+2),8)+IU(LB+3)
        CALL FIELD(IU,42,LB,LC)               ; 12Z SNOWFALL
          MN(32)=ISHFT(IU(LC),8)+IU(LC+1)
C
C
C
        IF(AVM(6,1).NE."00")GOTO 190          ; WRITE HEADINGS
        MM(26)="MA"
        MM(27)="X "
```

```
  190   CALL WRS(IC,MM(1),70,IER)
C
C.........12Z OBSERVATION
        MN(1)=STNS(2*(I-1)+5)                                  ; STATION NAME
        MN(2)=STNS(2*(I-1)+6)
        IF(AVM(6,1).EQ."00")MN(4)="00"      ; CHANGE TIME IF MID SHIFT
        MN(9)=AVM(26,I)                                        ; CEILING
        MN(12)=ISHFT(AVM(62,I),8)+ISHFT(AVM(63,I),-8)    ; VISIBILITY
        MN(13)=ISHFT(AVM(63,I),8)+93
        MN(19)=ISHFT(AVM(106,I),8)+ISHFT(AVM(107,I),-8) ; WIND
        MN(20)=ISHFT(AVM(107,I),8)+ISHFT(AVM(108,I),-8)
        CALL WRS(IC,MN(1),70,IER)
C
C
C..............15Z OBSERVATION
        IF(AVM(6,1).EQ."00")MO(4)="03"                         ; CHANGE TIME
        MO(9)=AVM(34,I)                                        ; CEILING
        MO(12)=ISHFT(AVM(71,I),8)+ISHFT(AVM(72,I),-8) ; VISIBILITY
        MO(13)=ISHFT(AVM(72,I),8)+93
        CALL WRS(IC,MO(1),54,IER)
C
C
C..............18Z OBSERVATION
        IF(AVM(6,1).EQ."00")MP(4)="06"                         ; CHANGE TIME
        MP(9)=AVM(42,I)                                        ; CEILING
        MP(12)=ISHFT(AVM(80,I),8)+ISHFT(AVM(81,I),-8) ; VISIBILITY
        MP(13)=ISHFT(AVM(81,I),8)+93
        MP(19)=ISHFT(AVM(126,I),8)+ISHFT(AVM(127,I),-8) ; WIND
        MP(20)=ISHFT(AVM(127,I),8)+ISHFT(AVM(128,I),-8)
        CALL WRS(IC,MP(1),58,IER)
C
C
C..............21Z OBSERVATION
        IF(AVM(6,1).EQ."00")MQ(4)="09"                         ; CHANGE TIME
        MQ(9)=ISHFT(AVM(16,I),8)+ISHFT(AVM(17,I),-8)    ; CEILING
        MQ(12)=ISHFT(AVM(51,I),8)+ISHFT(AVM(52,I),-8) ; VISIBILITY
        MQ(13)=ISHFT(AVM(52,I),8)+93
        IF(I.NE.2.OR.NSTN.NE.3)GOTO 250
        MQ(39)=20000K+91                      ; PUT [ ] AT END OF LINE
        MQ(40)=20000K+93
        DO 200 J=14,38
  200   MQ(J)=20040K
        CALL WRS(IC,MQ(1),80,IER)
        GOTO 300
  250   CALL WRS(IC,MQ(1),26,IER)
        CALL WRS(IC,M,2,IER)
  300 CALL WRS(IC,M,2,IER)                    ; CR/LF
C
C
C
C.........WRITE INSTRUCTIONS
      CALL WRS(IC,MR,66,IER)
      CALL WRS(IC,MS,56,IER)
      CALL WRS(IC,MT,74,IER)
      CALL WRS(IC,MU,56,IER)
      CALL WRS(IC,MW,66,IER)
      CALL WRS(IC,MV,20,IER)
C
C
      MM(8)=20000K+91
```

```
      MM(9)=20000K+93
      MM(10)=6412K
      CALL WRS(IC,MM,20,IER)              ; PUT [ ] ON NEXT LINE
C
C
C
      M=101630K                             ; FINISH UP PRODUCT
      CALL WRS(IC,M,2,IER)
      CALL RESET
      CALL FSTORE("A1VM",0,IER)             ; STORE IT IN THE DATABASE
      PKEY(1)=" M"
      PKEY(2)=":V"
      PKEY(3)="FY"
      PKEY(4)=STNS(1)
      PKEY(5)=STNS(2)
      CALL FORKO("VFY1",PKEY,IER)           ; NOTIFY THE ADM
      STOP
      END
```

```
C     PROGRAM VF2     11/30/83                    REV 01.00
C     NOV 1983              ALAN BLACKBURN        WSFO BUF  FTS 437-4800
C     FORTRAN IV/ REV 5.20  DG ECLIPSE (S230)     RDOS/ REV 6.17
C     LOAD LINE:  RLDR VF2 RJUST FIELD SPRED AFREAD.LB BG.LB UTIL.LB
C                 FORT.LB AFOSE.LB
C     PURPOSE
C         TAKES DATA FROM CCCVFYCCC AND ENTERS IT INTO AVM AND PVM
C         VERIFICATION FILES
C     EXTERNALS
C         RJUST  FIELD  SPRED
C         GCHN OPENR  RDS
C         KLOSE  KSRCF  RDBKF
C         NXBKF  AFREAD UNPACK
C         PACK  DFILW  CRAND
C         OPEN  FORK  WRS
C         RESET  FSTORE
C         FORKE
C     CHANNELS/FILES
C         CHNL IC - READS VERDIR FILE
C         CHNL IC - OUTPUT TO A1VM, P1VM, A2VM, P2VM, A3VM, P3VM
C     VARIABLES
C         IBUF()          - HOLDS DATA READ IN
C         IU()            - HOLDS UNPACKED PVM DATA FOR FIELD SUBROUTINE
C         IR()            - KEEPS TRACK OF BAD PVM AND AVM FILES
C         IHDR()          - HEADING FOR DATABASE STORAGE
C         PVM()           - PVM DATA
C         AVM()           - AVM DATA
C         NSTN            - NUMBER OF STATIONS
C         IP()            - HOLDS PACKED VFY DATA
C         MB()            - HOLDS DATA FOR INSERTION IN PVM FILES
C
C
C       READS FROM CCCVFYCCC AND ENTERS DATA INTO CCC(P,A)VMXXX
C       WRITTEN NOVEMBER 29, 1983 BY ALAN BLACKBURN WSFO BUFFALO
C
      COMMON/HDR/IHDR(20)
      DIMENSION IBUF(128),KREC(20),MA(3),IP(40),MP(3),IU(2048),IR(6)
      DIMENSION MB(11)
C
      INTEGER PVM(1024,3),AVM(896,3),STNS(10),PKEY(5)
      DATA IHDR/"CCCAVMXXX000",177777K,177777K,2400K,142600K,
     &"WOUS00 KCCC 999999",6412K/
      M=6412K
C
C
C
C.....GET NODE AND STATIONS FROM VERDIR
      CALL GCHN(IC,IER)
      CALL OPENR(IC,"VERDIR",IER)
      CALL RDS(IC,STNS,20,IER)              ; NODE IN WORDS 1,2  STATIONS
      CALL KLOSE(IC,IER)                    ; IN 5-10
      NSTN=STNS(3)
C
C
C.....READ IN AVM'S, PVM'S
      PKEY(1)=STNS(1)
      PKEY(2)=STNS(2)                       ; PUT NODE IN PKEY
      PKEY(3)="VM"
      DO 100 I=1,NSTN
        PKEY(4)=STNS(2*(I-1)+5)             ; PUT STN IN PKEY
```

```
      PKEY(5)=IAND(177400K,STNS(2*(I-1)+6))
C
C
      PKEY(2)=IAND(177400K,PKEY(2))+65    ; PUT IN "A" FOR AVM
      CALL KSRCF(PKEY,KREC,IER)           ; GET KEY RECORD
      IF(IER.NE.1)IR((I-1)*2+1)=1
      CALL RDBKF(0,IBUF,IER)              ; READ AVM
      IF(IER.NE.1)IR((I-1)*2+1)=1
      DO 20 K=14,128
   20 AVM((K-13),I)=IBUF(K)               ; PUT 1ST BLOCK IN AVM
      DO 40 J=1,6                         ; READ NEXT 6 AFOS BLOCKS
        CALL NXBKF(IBUF,IER)
        IF(IER.NE.1)IR((I-1)*2+1)=1
        DO 30 K=3,128
   30   AVM((J*126+K-13),I)=IBUF(K)       ; PUT THEM IN AVM
   40 CONTINUE
      IF(AVM(1,I).NE."OU")GOTO 50         ; CHECK FOR NON-COLLATE AVM
      DO 45 J=10,871
   45 AVM((J-9),I)=AVM(J,I)
C
C
   50 PKEY(2)=IAND(177400K,PKEY(2))+80    ; PUT IN "P" FOR PVM
      CALL KSRCF(PKEY,KREC,IER)           ; READ PVM'S
      IF(IER.NE.1)IR((I-1)*2+2)=1
      CALL RDBKF(0,IBUF,IER)
      IF(IER.NE.1)IR((I-1)*2+2)=1
      DO 60 K=14,128
   60 PVM((K-13),I)=IBUF(K)               ; PUT 1ST BLOCK IN PVM
      DO 80 J=1,7
        CALL NXBKF(IBUF,IER)              ; READ NEXT 7 AFOS BLOCKS
        IF(IER.NE.1.AND.J.LT.7)IR((I-1)*2+2)=1
        DO 70 K=3,128
   70   PVM((J*126+K-13),I)=IBUF(K)       ; PUT IN PVM
   80 CONTINUE
      IF(PVM(1,I).NE."OU")GOTO 100        ; CHECK FOR NON-COLLATE PVM
      DO 90 J=10,997
   90 PVM((J-9),I)=PVM(J,I)
  100 CONTINUE
C
C
C.....SET UP CCCVFYCCC
      PKEY(2)=IAND(177400K,PKEY(2))+86    ; PUT IN V OF VFY
      PKEY(3)="FY"
      PKEY(4)=PKEY(1)
      PKEY(5)=IAND(PKEY(2),177400K)
      CALL AFREAD(1,PKEY,$900)
C
C.....AVIATION FORECASTER
      CALL AFREAD(2,IP,$300,$300)
      CALL AFREAD(2,IP,$300,$300)
      CALL RJUST(IP,18,2)                 ; RIGHT JUSTIFY
      IF(ISHFT(IP(18),-8).EQ.32)IP(18)=24000K+IAND(377K,IP(18))
      DO 110 I=1,NSTN
        AVM(8,I)=4400K+ISHFT(IP(18),-8)
  110 AVM(9,I)=11K+ISHFT(IP(18),8)
C
      DO 200 I=1,NSTN
        CALL UNPACK(PVM(1,I),2048,IU)
C
C.....PRECIP TYPE
```

```
        DO 120 J=1,3
  120   CALL AFREAD(2,IP,$300,$300)
        CALL FIELD(IU,58,1,LB)
        IU(LB)=IAND(377K,IP(12))
        CALL FIELD(IU,8,LB,LC)
        IU(LC)=IAND(377K,IP(18))
        CALL FIELD(IU,8,LC,LB)
        IU(LB)=IAND(377K,IP(24))
C
C
C.........SNOW AMOUNT
        CALL AFREAD(2,IP,$300,$300)
        CALL AFREAD(2,IP,$300,$300)
        CALL RJUST(IP,15,2)
        CALL FIELD(IU,8,LB,LC)
        IU(LC)=ISHFT(IP(15),-8)
        IU(LC+1)=IAND(377K,IP(15))
C
C
C.........CLOUDS
        CALL AFREAD(2,IP,$300,$300)
        CALL AFREAD(2,IP,$300,$300)
        DO 140 J=1,3
          CALL FIELD(IU,6,LC,LB)
          LC=LB
  140   IU(LB)=IAND(377K,IP(6+3*J))
C
        CALL PACK(IU,2048,PVM(1,I))
C
C
C............WINDS
        CALL AFREAD(2,IP,$300,$300)
        CALL AFREAD(2,IP,$300,$300)
        AVM((154),I)=IP(24)
        AVM((155),I)=IP(25)
C
C
        CALL AFREAD(2,IP,$300,$300)
  200 CONTINUE
C
C
C
C
C
C............OBSERVATION SECTION
C
C
      DO 500 I=1,NSTN
        CALL UNPACK(PVM(1,I),2048,IU)
        CALL AFREAD(2,IP,$300,$300)          ; SKIP HEADING LINE
        CALL AFREAD(2,IP,$300,$300)
C
C
C.........12Z OBSERVATIONS
        CALL AFREAD(2,IP,$300,$300)
        CALL RJUST(IP,9,2)                   ; RIGHT JUSTIFY FIELDS
        CALL RJUST(IP,23,4)
        CALL RJUST(IP,27,3)
        CALL RJUST(IP,32,2)
        AVM(26,I)=IP(9)                      ; CEILING
```

```
        AVM(214,I)=IP(9)
        AVM(62,I)=4400K+ISHFT(IP(12),-8)    ; VISIBILITY
        AVM(63,I)=ISHFT(IP(12),8)+ISHFT(IP(13),-8)
        AVM(253,I)=IP(12)
        AVM(254,I)=IAND(177400K,IP(13))+11K
        MB(3)=IP(16)                        ; CLOUD AMOUNT
        AVM(106,I)=4400K+ISHFT(IP(19),-8)   ; WINDS
        AVM(107,I)=ISHFT(IP(19),8)+ISHFT(IP(20),-8)
        AVM(108,I)=ISHFT(IP(20),8)+11K
        MB(7)=IP(23)                        ; PRECIPITATION
        MB(8)=IP(24)
        MB(5)=IP(27)                        ; MINIMUM TEMPERATURE
        MB(6)=IP(28)
        MB(9)=IP(32)                        ; SNOWFALL
C
C
C.............15Z OBSERVATION
        CALL AFREAD(2,IP,$300,$300)
        CALL RJUST(IP,9,2)
        AVM(34,I)=IP(9)                     ; CEILING
        AVM(71,I)=4400K+ISHFT(IP(12),-8)    ; VISIBILITY
        AVM(72,I)=ISHFT(IP(12),8)+ISHFT(IP(13),-8)
C
C
C.............18Z OBSERVATION
        CALL AFREAD(2,IP,$300,$300)
        CALL RJUST(IP,9,2)
        AVM(42,I)=IP(9)                     ; CEILING
        AVM(80,I)=4400K+ISHFT(IP(12),-8)    ; VISIBILITY
        AVM(81,I)=ISHFT(IP(12),8)+ISHFT(IP(13),-8)
        MB(4)=IP(16)                        ; CLOUD AMOUNT
        AVM(126,I)=4400K+ISHFT(IP(19),-8)   ; WIND
        AVM(127,I)=ISHFT(IP(19),8)+ISHFT(IP(20),-8)
        AVM(128,I)=ISHFT(IP(20),8)+11K
        DO 450 J=1,2
          AVM((304+30*(J-1)),I)=4400K+ISHFT(IP(19),-8)
          AVM((305+30*(J-1)),I)=ISHFT(IP(19),8)+ISHFT(IP(20),-8)
  450   AVM((306+30*(J-1)),I)=ISHFT(IP(20),8)+11K
        MB(1)=IP(23)                        ; PRECIP TYPE
        MB(2)=IP(24)
        CALL RJUST(IP,27,3)                 ; 18 HOUR MIN
        MB(10)=IP(27)
        MB(11)=IP(28)
C
C.............21Z OBSERVATION
        CALL AFREAD(2,IP,$300,$300)
        CALL RJUST(IP,9,2)
        AVM(16,I)=4400K+ISHFT(IP(9),-8)     ; CEILING
        AVM(17,I)=ISHFT(IP(9),8)+11K
        AVM(51,I)=4400K+ISHFT(IP(12),-8)    ; VISIBILITY
        AVM(52,I)=ISHFT(IP(12),8)+ISHFT(IP(13),-8)
C
C
C.............PUT MB DATA IN PVM
        CALL FIELD(IU,63,1,LB)              ; PRECIP TYPE  FIELD #63
         CALL UNPACK(MB(1),3,IU(LB))
        CALL FIELD(IU,29,LB,LC)             ; 12Z CLOUD AMOUNT 92
         IU(LC)=ISHFT(MB(3),-8)
        CALL FIELD(IU,6,LC,LB)              ; 18Z CLOUD AMOUNT 98
         IU(LB)=ISHFT(MB(4),-8)
```

```
      CALL FIELD(IU,15,LB,LC)              ; 18 HOUR MIN 113
       CALL SPRED(IU,LC)                   ; MAKE ROOM IF NEEDED
       CALL UNPACK(MB(10),3,IU(LC))
      CALL FIELD(IU,1,LC,LB)               ; MINIMUM TEMP 114
       CALL SPRED(IU,LB)                   ; MAKE ROOM IF NEEDED
       CALL UNPACK(MB(5),3,IU(LB))
      CALL FIELD(IU,11,LB,LC)              ; 18 HOUR MIN 125
       CALL SPRED(IU,LC)
       CALL UNPACK(MB(10),3,IU(LC))
      CALL FIELD(IU,1,LC,LB)               ; MIN TEMP 126
       CALL SPRED(IU,LB)
       CALL UNPACK(MB(5),3,IU(LB))
      CALL FIELD(IU,19,LB,LC)              ; PRECIPITATION 145
       CALL UNPACK(MB(7),4,IU(LC))
      CALL FIELD(IU,9,LC,LB)               ; PRECIP 154
       CALL UNPACK(MB(7),4,IU(LB))
      CALL FIELD(IU,17,LB,LC)              ; PRECIP TYPE 171
       CALL UNPACK(MB(1),3,IU(LC))
C
C
      CALL FIELD(IU,12,LC,LB)              ; PRECIP TYPE 183
       CALL UNPACK(MB(1),3,IU(LB))
      CALL FIELD(IU,4,LB,LC)               ; SNOWFALL 187
       CALL UNPACK(MB(9),2,IU(LC))
      CALL FIELD(IU,18,LC,LB)              ; CLOUD AMOUNT 205
       IU(LB)=ISHFT(MB(3),-8)
      CALL FIELD(IU,28,LB,LC)              ; 18 HOUR MIN 233
       CALL SPRED(IU,LC)
       CALL UNPACK(MB(10),3,IU(LC))
      CALL FIELD(IU,1,LC,LB)               ; MIN TEMP 234
       CALL SPRED(IU,LB)
       CALL UNPACK(MB(5),3,IU(LB))
      CALL FIELD(IU,11,LB,LC)              ; 18 HOUR MIN 245
       CALL SPRED(IU,LC)
       CALL UNPACK(MB(10),3,IU(LC))
      CALL FIELD(IU,1,LC,LB)               ; MIN TEMP 246
       CALL SPRED(IU,LB)
       CALL UNPACK(MB(5),3,IU(LB))
      CALL FIELD(IU,15,LB,LC)              ; PRECIP 261
       CALL UNPACK(MB(7),4,IU(LC))
C
  500 CALL PACK(IU,2048,PVM1(1,I))
C
C
C
C...........OUTPUT SECTION
  300 CONTINUE
      IHDR(1)=STNS(1)                      ; PUT NODE IN IHDR
      IHDR(2)=STNS(2)
      IHDR(15)=STNS(1)
      IHDR(16)=STNS(2)
      MA(2)="VM1"                          ; GET RDOS OUTPUT TITLES
      MP(2)="VM1"
C
C
      DO 250 I=1,NSTN
        MA(1)=ISHFT(65,8)+I+48             ; GET "A" FOR A1VM RDOS FILE
        MP(1)=ISHFT(80,8)+I+48             ; GET "P" FOR P1VM RDOS FILE
        CALL DFILW(MA,IER)                 ; GET FILE READY
        CALL CRAND(MA,IER)
```

```
        CALL GCHN(IC,IER)
        CALL OPEN(IC,MA,0,IER)
C
C
        IHDR(4)=STNS(2*(I-1)+5)                 ; PUT XXX IN HDR
        IHDR(5)=IAND(177400K,STNS(2*(I-1)+6))+48
        IHDR(2)=IAND(177400K,IHDR(2))+65        ; PUT "A" IN FOR AVM
        IF(IR((I-1)*2+1).NE.1)GOTO 230          ; DON'T WRITE BAD AVM
        CALL FORK("BAD AVM",IER)
        CALL RESET
        GOTO 240
C
C
  230   CALL WRS(IC,IHDR(1),39,IER)             ; WRITE AVM HEADER
        CALL WRS(IC,AVM(1,I),1792,IER)          ; WRITE AVM DATA
        CALL RESET
        CALL FSTORE(MA,0,IER)
C
C
C
  240   CALL DFILW(MP,IER)                      ; GET PVM FILE READY
        CALL CRAND(MP,IER)
        CALL GCHN(KC,IER)
        CALL OPEN(KC,MP,0,IER)
C
C
        IHDR(2)=IAND(177400K,IHDR(2))+80        ; PUT "P" IN FOR PVM
        IF(IR((I-1)*2+2).NE.1)GOTO 245          ; DON'T WRITE BAD FILE
        CALL FORK("BAD PVM",IER)
        CALL RESET
        GOTO 250
C
C
  245   CALL WRS(KC,IHDR(1),39,IER)             ; WRITE PVM HEADER
        CALL WRS(KC,PVM(1,I),2048,IER)          ; WRITE PVM
        CALL RESET
        CALL FSTORE(MP,0,IER)
C
C
  250 CONTINUE
      CALL FORK("VFY2",IER)
      CALL RESET
      STOP
C
C
  900 CALL FORKE("VFY",PKEY,IER)
      CALL RESET
      STOP
      END
```

```
      SUBROUTINE SPRED(IU,LB)
C
C        THIS SUBROUTINE OPENS UP A COMPRESSED FIELD IN IU 3 SPACES
C        TO MAKE ROOM FOR NEW TEMPERATURE DATA
C
C          VARIABLES:  IU  UNPACKED ARRAY
C                      LB  FIRST BYTE OF NEW FIELD
C                      LP  NUMBER OF BYTES IN THE NEW FIELD
C
C
      DIMENSION IU(2048)
      IF(IU(LB).EQ.11K)GOTO 50       ; CHECK FOR COMPRESSED FIELD
      RETURN
C
   50 K=2049-LB-3
      DO 100 I=1,K
      J=2049-I
  100 IU(J)=IU(J-3)
      RETURN
      END
```

```
      SUBROUTINE FIELD(IFU,KF,KB,LB,IER)
C
C        THIS SUBROUTINE SEARCHES FOR A FIELD IN AN UNPACKED FIELDS-ONLY
C        ARRAY NAMED IFU BY COUNTING OCTAL 11'S
C
C        VARIABLES:   KF   LOOK FOR KF'TH FIELD
C                     KB   START FROM BYTE # KB
C                     LB   DESIRED FIELD STARTS IN BYTE # LB
C
      DIMENSION IFU(2048)
C
      N=0                          ; # OF 11K'S SO FAR
      DO 100 I=KB,2047
        IF(IFU(I).NE.11K)GOTO 100
        N=N+1
        IF(N.EQ.KF)GOTO 200
  100 CONTINUE
      LB=0
  200 LB=I+1
      RETURN
      END
```

```
      SUBROUTINE RJUST(IP,NW,NS)
C
C       THIS SUBROUTINE RIGHT JUSTIFIES.
C         VARIABLES:    IP  PACKED ARRAY
C                       NW  WORD NUMBER OF FIELD IN IP
C                       NS  NUMBER OF SPACES IN FIELD
C
      DIMENSION IP(40), IU(5)
C
      IF(IP(NW).EQ."   ".AND.(NS.EQ.2.OR.NS.EQ.3))GOTO 300
      IF(IP(NW).EQ."   ".AND.IP(NW+1).EQ."   ".AND.NS.EQ.4)GOTO 300
      IU(1)=32
      K=NS-1
      DO 200 I=1,K
        CALL UNPACK(IP(NW),NS,IU(2))
        IF(IU(NS+1).NE.32)GOTO 300
  200 CALL PACK(IU,NS,IP(NW))
      RETURN
  300 CONTINUE
      RETURN
      END
```

SLICK AND QUICK DATA ENTRY FOR AFOS ERA VERIFICATION (AEV) PROGRAM

PART A: PROGRAM INFORMATION AND INSTALLATION PROCEDURE (VF1)

PROGRAM NAME: VF1

AAL ID:
REVISION NO: 1.00

PURPOSE: Reads data from CCCAVMXXX and CCCPVMXXX and creates a preformat CCCMCPVFY for data entry.

PROGRAM INFORMATION:

Development Programmer:
Alan Blackburn
Location: WSFO Buffalo, NY
Phone: (FTS) 437-4800
Language: FORTRAN IV REV 5.20
Date: 11/30/83
Running Time: 45 seconds

Maintenance Programmer:
Same

Type: Standard
Revision Date: NA

Disk Space: Program Files - 30 RDOS blocks
Data Files - 5 RDOS blocks

PROGRAM REQUIREMENTS

Program Files: VF1.SV

Data Files:

Name	DP Location	R/W	Comments
VERDIR	DPØ	Read	Node, Number and Name of Stations
A1VM	DPØ	Write	Stores to CCCMCPVFY

AFOS Products:

ID	Action
CCCAVMXXX	Read
CCCPVMXXX	Read

LOAD LINE

RLDR VF1 FIELD BG.LB UTIL.LB FORT.LB AFOSE.LB

PROGRAM INSTALLATION

1- Add CCCMCPVFY and CCCVFYCCC to the database

2- Put VF1.SV on DPØ or link from DPØ

EASTERN REGION CP No. 14

SLICK AND QUICK DATA ENTRY FOR AFOS ERA VERIFICATION (AEV) PROGRAM

PART A: PROGRAM INFORMATION AND INSTALLATION PROCEDURE (VF2)

PROGRAM NAME: VF2

AAL ID:
REVISION NO: 1.00

PURPOSE: Reads CCCVFYCCC and enters data into CCCAVMXXX and CCCPVMXXX.

PROGRAM INFORMATION:

Development Programmer:
Alan Blackburn
Location: WSFO Buffalo, NY
Phone: (FTS) 437-4800
Language: FORTRAN IV REV 5.20
Date: 11/30/83
Running Time: 60 seconds

Maintenance Programmer:
Same

Type: Standard
Revision Date: NA

Disk Space: Program Files - 31 RDOS blocks
Data Files - 24 or 36 RDOS blocks

PROGRAM REQUIREMENTS

Program Files: VF2.SV

Data Files:

Name	DP Location	R/W	Comments
VERDIR	DPØ	Read	Node, Number and Name of Stations
A1VM, P1VM, A2VM P2VM, (A3VM, P3VM)	DPØ	Write	Stores to CCCAVMXXX and CCCPVMXXX

AVOS Products:

ID	Action	Comments
CCCVFYCCC	Read	New Data to enter into CCCAVMXXX and CCCPVMXXX
CCCAVMXXX, CCCPVMXXX	Read and Modify	Final Output

LOAD LINE

RLDR VF2 FIELD RJUST SPRED AFREAD.LB BG.LB UTIL.LB FORT.LB AFOSE.LB

PROGRAM INSTALLATION

1- Add CCCVFYCCC to database

2- Put VF2.SV on DPØ or link from DPØ

EASTERN REGION CP No. 14

SLICK AND QUICK DATA ENTRY FOR AFOS ERA VERIFICATION (AEV) PROGRAM

PART B: PROGRAM EXECUTION AND ERROR CONDITIONS (VF1)

PROGRAM NAME: VF1

AAL ID:
REVISION NO: 1.00

PROGRAM EXECUTION

1.	RUN:MERGE	AT AN ADM
2.	RUN:COLLATE	AT AN ADM
3.	RUN:VF1	AT COMPLETION: JOB VFY1 COMPLETED OUTPUT IN M:VFYCCC

ERROR CONDITIONS

ADM MESSAGES

1. NONE

DASHER MESSAGES

1. NONE

EASTERN REGION CP No. 14

SLICK AND QUICK DATA ENTRY FOR AFOS ERA VERIFICATION (AEV) PROGRAM

PART B: PROGRAM EXECUTION AND ERROR CONDITIONS (VF2)

PROGRAM NAME: VF2

AAL ID:
REVISION NO: 1.00

PROGRAM EXECUTION

1. M:VFYCCC
   This puts you in message composition in CCCVFYCCC. Fill in the blanks, put the cursor at the bottom of Page 2 or 3 and strike ENTER

2. RUN:VF2
   Reads the data from CCCVFYCCC and puts it into CCCAVMXXX and CCCPVMXXX.
   Completion Message: JOB VFY2 COMPLETE

ERROR CONDITIONS

	ADM MESSAGES	MEANING
1.	CCCVFYCCC	CCCVFYCCC cannot be read. Edit CCCVFYCCC and rerun VF2
2.	BAD AVM BAD PVM	VF2 can't read CCCPVMXXX or CCCAVMXXX. Purge the AVM or PVM files, RUN:COLLATE/C and rerun VF2

DASHER MESSAGES

1. NONE

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