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JSC-12691

PROGRAM DOCUMENTATIONS:

MARQTY1.FTN
CAMDATA1.FTN

NASA CR-
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Job Order 74-903

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Prepared By

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Houston, Texas

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For

EARTH OBSERVATIONS DIVISION
SPACE AND LIFE SCIENCES DIRECTORATE



National Aeronautics and Space Administration
LYNDON B. JOHNSON SPACE CENTER
Houston, Texas

August 1978

LEC-12376

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16. Abstract Two special purpose computer programs written in support of the Large Area Crop Inventory Experiment (LACIE) interactive aggregation system are described. Computer program MARQTY1.FTN computes a summary of the data on one of the files used by the interactive aggregation systems. Computer program CAMDATA1.FTN summarizes a Classification Mensuration Subsystem (CAMS) master data file from the interactive system data base.					
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1. PROGRAM DESCRIPTIONS

1.1 MARQTY1.FTN

This program reads and performs calculations on an output file (CAMREP.US) of the Crop Assessment Subsystem (CAS) interactive system. This program, as well as CAMDATA1.FTN, is written in Fortran IV Plus to operate on the Programmed Data Processor, model 11/45 (PDP 11/45), computer under the Resource Sharing Executive, model 11D (RSX-11D), operating system. The CAS output file, CAMREP.US, is created during an aggregation and consists of the Classification and Mensuration Subsystem (CAMS) segments, crop estimates, and other data. There are no inputs to the program other than a file with the name CAMREP.US. (A program functional flowchart is presented in figure 1.)

1.2 CAMDATA1.FTN

This program reads and performs calculations on the CAMS master data file (CAMREP78.USW) of the CAS interactive system. This file must be available and renamed CAMDATA.IN. The input file contains all CAMS segment classification results as well as biostage, evaluation code, and classification data information. There are two requirements for the running of this program. First, a file with the name CAMDATA.IN must be available. Secondly, upon execution the program will prompt if the user wishes a complete dump of the file. A response of "Y" will give a total listing of the contents of CAMDATA.IN. If the user responds with an "N" the listing will be suppressed, and only a summary of this file will be output. This summary is listed for either a "Y" or an "N" user response. (A program functional flowchart is presented in figure 2.)

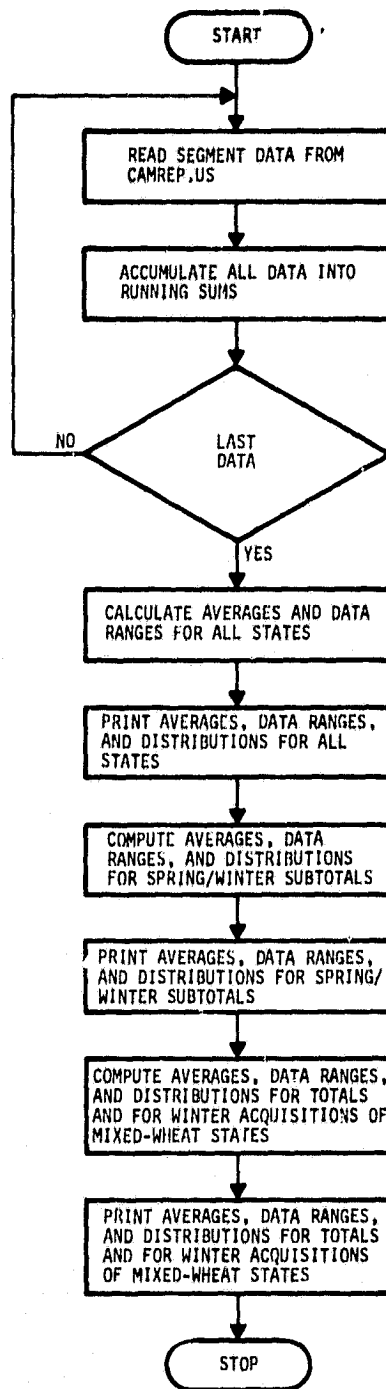


Figure 1.— Program functional flowchart for MARQTY1.FTN.

1-2
2

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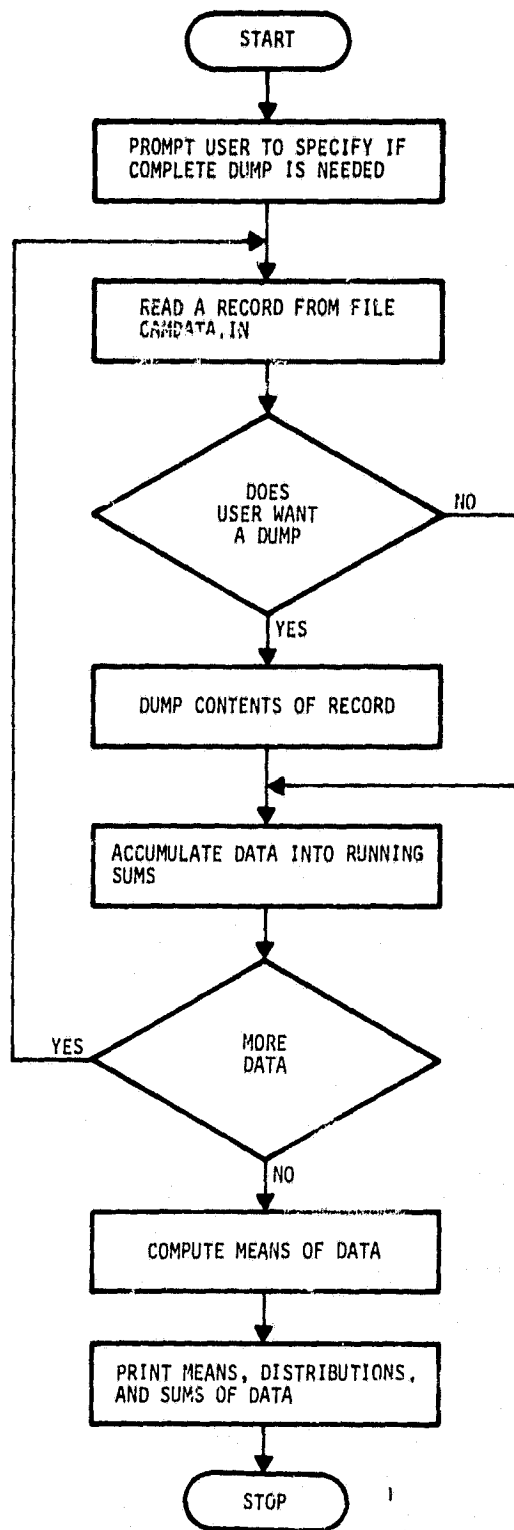


Figure 2.— Program functional flowchart for CAMDATA1.FTN.

~~1-3~~
3

2. OUTPUT DESCRIPTIONS

2.1 MARQTY1.FTN

This program computes and outputs to the Gould printer the following quantities:

<u>Quantity</u>	<u>Heading label</u>
Number of lines read from CAMREP.US (For every state)	—
State name	—
Total number of spring and winter segments for the given state	SPRING SEGS WINTER SEGS
Number of spring and winter segments designated 100 percent other	SPRING OTHER WINTER OTHER
Total and average of spring and winter ratioed wheat for all segments of that state	WHT (RATIOED)
Total and average number of days between last segment acquisition and classification date	PROCESSING TIME
Average for the last segment acquisition date for all segments	AVE LAST ACQ DATE
Percentage of ratioed wheat in the segment with the least percentage of ratioed wheat	MIN PCT WHT (RATIOED)
Percentage of ratioed wheat in the segment with the largest percentage of ratioed wheat	MAX PCT WHT (RATIOED)
Earliest acquisition date	EARLIEST ACQ DATE
Latest acquisition date	LATEST ACQ DATE

21
4

<u>Quantity</u>	<u>Heading label</u>
Distribution and percent distribution of latest acquisitions with respect to evaluation code	EVALUATION CODE DISTRIBUTION
Distribution and percent distribution of latest acquisition with respect to acquisition month	ACQUISITION AND % DISTRIBUTION
Distribution and percent distribution of CAMS data with respect to the CAMS estimate	DISTRIBUTION AND % DISTRIBUTION OF CAMS DATA
Distribution of processing times for segments in weeks	DISTRIBUTION OF SEGMENT PROCESSING TIMES (WEEKS)

The quantities mentioned above are then totaled for (1) all spring acquisitions, (2) all winter acquisitions, (3) sum of all acquisitions, and (4) winter acquisitions of mixed states (South Dakota and Montana).

2.2 CAMDATA1.FTN

If the program user responds with a "Y" to the cathode-ray tube (CRT) prompt, the following information will be printed on the Gould printer for every segment in CAMDATA.IN:

<u>Segment No.</u>	<u>Description</u>
1	Record number
2	Segment number
3	Crop type (1 ≡ spring, 2 ≡ winter, 3 ≡ mixed)
4	Classification biostage
5	Evaluation code
6	Classification date

<u>Segment No.</u>	<u>Description</u>
7	Number of acquisitions
8-11	Acquisition dates and biostages
12	% spring wheat
13	% winter wheat
14	% small grains
15	% spring small grains
16	% winter small grains
17	% winter wheat (ratioed)
18	% spring wheat (ratioed)
19	% thresholded
20	% other
21	% unidentifiable
22	Latest acquisition in packet
23	Winter wheat biostage adjustment
24	Spring wheat biostage adjustment

The following is the data summary which is output:

<u>Quantity</u>	<u>Heading label</u>
Total number of winter segments with CAMS estimates	WINTER SEGS
Total number of spring segments with CAMS estimates	SPRING SEGS
Average CAMS estimate over all spring segments	AVE SPRING
Average CAMS estimate over all winter segments	AVE WINTER

Quantity

Heading label

Distribution of all acquisitions
with respect to evaluation code

EVALUATION CODE DISTRIBUTION

Distribution of all acquisitions
with respect to month of
acquisition

ACQUISITION MONTH
DISTRIBUTION

~~2-4~~
7

3. COMPILED LISTING OF MARQTY1.FTN


```
0034 1785 FFORMAT(14,15,12,12,13,16,12,4(10,12),10(1,1,16,213))
0039 GO CONTINUE
0040 IF(1580)GOTO 1900
0041 IF(1580)GOTO 1900
0042 IF(1580)GOTO 1900
0043 IF(1580)GOTO 1900
0044 IF(1580)GOTO 1900
0045 IF(1580)GOTO 1900
0046 IF(1580)GOTO 1900
0047 IF(1580)GOTO 1900
0048 IF(1580)GOTO 1900
0049 IF(1580)GOTO 1900
0050 IF(1580)GOTO 1900
0051 IF(1580)GOTO 1900
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0061 IF(1580)GOTO 1900
0062 IF(1580)GOTO 1900
0063 IF(1580)GOTO 1900
0064 IF(1580)GOTO 1900
0065 IF(1580)GOTO 1900
0066 IF(1580)GOTO 1900
0067 IF(1580)GOTO 1900
0068 IF(1580)GOTO 1900
0069 IF(1580)GOTO 1900
0070 IF(1580)GOTO 1900
0071 IF(1580)GOTO 1900
0072 IF(1580)GOTO 1900
0073 IF(1580)GOTO 1900
0074 IF(1580)GOTO 1900
0075 IF(1580)GOTO 1900
0076 IF(1580)GOTO 1900
0077 IF(1580)GOTO 1900
0078 IF(1580)GOTO 1900
0079 IF(1580)GOTO 1900
0080 IF(1580)GOTO 1900
0081 IF(1580)GOTO 1900
0082 IF(1580)GOTO 1900
0083 IF(1580)GOTO 1900
0084 IF(1580)GOTO 1900
0085 IF(1580)GOTO 1900
```

PROGRAM SECTIONS

ATTACHED

SIZE

NAME

NOV-68

10760070.000
 10760000.000
 10760070.000
 10760070.000

VARIABLES

NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000

ARRAYS

CONTINUED

SIZE

ADDRESS

NOV-68

NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000

NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS	NAME	TYPE	ADDRESS
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000
AVEN	201	00000000	NUM	201	00000000	AVEN	201	00000000	NUM	201	00000000

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FUNCTIONS AND SUBROUTINES REFERENCED
ASSIGN

TOTAL SPACE ALLOCATED = 052540 10936
CAPDATA1,PIPCAPDATA1,FTA

4. COMPILED LISTING OF CAMDATA1.FTN


```

0050 TOTALS(ISTATE,ICOL,0)TOTALS(ISTATE,ICOL,0)+PERCENT(9)
0051 IF(PERCENT(1),GT,RANGE(ISTATE,ICOL,3,1))RANGE(ISTATE,ICOL,3,1) *
1 PERCENT(1)
0052 IF(PERCENT(1),LT,RANGE(ISTATE,ICOL,3,2))RANGE(ISTATE,ICOL,3,2) *
1 PERCENT(1)
0053 IF(ICOL,GT,150 TO 2000
TOTALS(ISTATE,2,3)TOTALS(ISTATE,2,3)+PERCENT(3)
0054 TOTALS(ISTATE,2,5)TOTALS(ISTATE,2,5)+PERCENT(5)
0055 TOTALS(ISTATE,2,7)TOTALS(ISTATE,2,7)+PERCENT(7)
0056 TOTALS(ISTATE,2,9)TOTALS(ISTATE,2,9)+PERCENT(9)
0057 IF(PERCENT(7),GT,RANGE(ISTATE,2,2,1))RANGE(ISTATE,2,2,1)+PERCENT(7)
0058 IF(PERCENT(7),LT,RANGE(ISTATE,2,2,2))RANGE(ISTATE,2,2,2)+PERCENT(7)
0059 GO TO 2200
0060 CONTINUE
0061 TOTALS(ISTATE,1,2)TOTALS(ISTATE,1,2)+PERCENT(2)
0062 TOTALS(ISTATE,1,4)TOTALS(ISTATE,1,4)+PERCENT(4)
0063 TOTALS(ISTATE,1,6)TOTALS(ISTATE,1,6)+PERCENT(6)
0064 IF(PERCENT(6),GT,RANGE(ISTATE,1,1,1))RANGE(ISTATE,1,1,1)+PERCENT(6)
0065 IF(PERCENT(6),LT,RANGE(ISTATE,1,1,2))RANGE(ISTATE,1,1,2)+PERCENT(6)
0066 2200 CONTINUE
0067 FACCTIME(1)
0068 ACCRINT(1)
0069 IF(ACCRINT,GT,RANGE(ISTATE,ICOL,1,1))RANGE(ISTATE,ICOL,1,1)+1
0070 IF(ACCRINT,GT,RANGE(ISTATE,ICOL,2,2))RANGE(ISTATE,ICOL,2,2)+1
0071 IF(ACCRINT,GT,RANGE(ISTATE,ICOL,3,3))RANGE(ISTATE,ICOL,3,3)+1
0072 IF(ACCRINT,GT,RANGE(ISTATE,ICOL,4,4))RANGE(ISTATE,ICOL,4,4)+1
0073 DAYS(ISTATE,ICOL,1,365) * 1/DAY
0074 TOTALS(ISTATE,ICOL,13)TOTALS(ISTATE,ICOL,13) * DAYS
0075 IF(DAYS,GT,CLASS - ICCLASS/1000
0076 IF(DAYS,GT,CLASS - ICCLASS/1000
0077 IF(DAYS,GT,CLASS - ICCLASS/1000
0078 IF(DAYS,GT,CLASS - ICCLASS/1000
0079 IF(DAYS,GT,CLASS - ICCLASS/1000
0080 IF(DAYS,GT,CLASS - ICCLASS/1000
0081 IF(DAYS,GT,CLASS - ICCLASS/1000
0082 IF(DAYS,GT,CLASS - ICCLASS/1000
0083 IF(DAYS,GT,CLASS - ICCLASS/1000
0084 IF(DAYS,GT,CLASS - ICCLASS/1000
0085 IF(DAYS,GT,CLASS - ICCLASS/1000
0086 IF(DAYS,GT,CLASS - ICCLASS/1000
0087 IF(DAYS,GT,CLASS - ICCLASS/1000
0088 IF(DAYS,GT,CLASS - ICCLASS/1000
0089 IF(DAYS,GT,CLASS - ICCLASS/1000
0090 IF(DAYS,GT,CLASS - ICCLASS/1000
0091 IF(DAYS,GT,CLASS - ICCLASS/1000
0092 IF(DAYS,GT,CLASS - ICCLASS/1000
0093 IF(DAYS,GT,CLASS - ICCLASS/1000
0094 IF(DAYS,GT,CLASS - ICCLASS/1000
0095 IF(DAYS,GT,CLASS - ICCLASS/1000
0096 IF(DAYS,GT,CLASS - ICCLASS/1000
0097 IF(DAYS,GT,CLASS - ICCLASS/1000
0098 IF(DAYS,GT,CLASS - ICCLASS/1000
0099 IF(DAYS,GT,CLASS - ICCLASS/1000
0100 IF(DAYS,GT,CLASS - ICCLASS/1000
0101 IF(DAYS,GT,CLASS - ICCLASS/1000
0102 IF(DAYS,GT,CLASS - ICCLASS/1000
  
```



```
0165 TOT(HT2)EYCT(HT2)*TOTALS(J,2,7)
0166 TOT(HT3)EYCT(HT3)*TOTALS(J,1,12)+TOTALS(J,2,7)
0167 IF(J,EG,5,5)*TOT(HT3,1,12)+TOTALS(J,2,7)
0168 1 TOTALS(J,1,7) + TOTALS(J,2,7)

0169 ELAPY(1)RELAPY(1)+TOTALS(J,1,12)
0170 ELAPY(2)RELAPY(2)+TOTALS(J,2,12)
0171 ELAPY(3)RELAPY(3)+TOTALS(J,1,12)+TOTALS(J,2,12)
0172 IF(J,EG,6,6)*RELAPY(4)+RELAPY(5)
0173 1 TOTALS(J,2,12)
0174 ACTTOT(1)EYCTOT(1)+TOTALS(J,1,13)
0175 ACTTOT(2)EYCTOT(2)+TOTALS(J,2,13)
0176 ACTTOT(3)EYCTOT(3)+TOTALS(J,1,13)+TOTALS(J,2,13)
0177 IF(J,EG,4,4)*J,EG,5,5)ACTTOT(4)+ACTTOT(5)
0178 1 TOTALS(J,2,13)
0179 5300 CONTINUE
0179 DO 5900 J=1,2
0180 IF(RANGE(J,4,5,1),GT,RANGE(3,1))RANGE(3,1)
0181 2 RANGE(J,4,5,1)
0182 IF(RANGE(J,4,5,1),LT,RANGE(3,2))RANGE(3,2)
0183 2 RANGE(J,4,5,1)
0184 IF(RANGE(J,4,5,2),GT,RANGE(4,1))RANGE(4,1)
0185 2 RANGE(J,4,5,2)
0186 IF(RANGE(J,4,5,2),GT,RANGE(4,1))RANGE(4,1)
0187 2 RANGE(J,4,5,2)
0188 IF(RANGE(J,4,5,2),LT,RANGE(4,2))RANGE(4,2)
0189 2 RANGE(J,4,5,2)
0190 IF(RANGE(J,4,5,1),GT,RANGE(3,1))RANGE(3,1)
0191 2 RANGE(J,4,5,1)
0192 IF(RANGE(J,4,5,2),GT,RANGE(3,2))RANGE(3,2)
0193 2 RANGE(J,4,5,2)
0194 IF(RANGE(J,4,5,1),GT,RANGE(4,1))RANGE(4,1)
0195 2 RANGE(J,4,5,1)
0196 IF(RANGE(J,4,5,2),GT,RANGE(4,1))RANGE(4,1)
0197 2 RANGE(J,4,5,2)
0198 IF(RANGE(J,4,5,2),LT,RANGE(4,2))RANGE(4,2)
0199 2 RANGE(J,4,5,2)
0200 DO 5910 J=1,16
0201 CAMPI(1,12,4)RELOC(1,CAMPI(1,12,5)) / FLOAT(ICOUT(3)) * 100.
0202 DO 5910 LAB,2
0203 IF(ICOUT(1),LT,116) GO 5910
0204 CAMPI(1,11,5) = FLOAT(ICAWC(L11,4)) / FLOAT(ICOUT(3)) * 100.
0205 WICAWC(1,11,5) = ICAWC(L11,4) + ICAWC(L11,4) + ICAMB(L11,4)
0206 WITW(1,11,5) = WITW(1,11,4) + ITWEN(L11,4) + ITWEN(L11,4)
0207 5910 CONTINUE
0208 DO 5915 J=1,16
0209 IF(ICOUT(1),LT,116) GO 5915
0210 CAMPIX(J) = FLOAT(WICAWC(J)) / FLOAT(ICOUT(3)) * 100.
0211 5915 CONTINUE
0212 DO 5920 J=1,6
0213 DO 5920 LAB1,2
```

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INDEX	000000	10	(4,2)
AC2	000000	0	(2,2)
STATS	000000	10	(9)
TOTALS	000000	520	(10,2,13)
TOTAN	000000	0	(4)

LABEL	ADDRESS	LABEL	ADDRESS	LABEL	ADDRESS	LABEL	ADDRESS
1200	..	1500	1-000374	10001	..	2000	1-001582
2200	1-001570	3000	1-002530	31001	3-000000	3200	1-003582
3300	1-003272	40001	1-003602	40501	..	47001	3-000100
45001	3-003304	45501	3-003624	45501	..	45501	3-001320
48501	3-001022	49001	..	5100	..	5300	..
5700	..	5910	1-010150	5920	1-010050
60201	3-001000	61001	3-001510	62001	3-002100	63001	3-002340
64001	3-002450	65001	3-002512

FUNCTIONS AND SUBROUTINES REFERENCED

ASSIGN SAPAXI SAPAXI

TOTAL SPACE ALLOCATED = 041250 0532

WACTYI.LP18PAGYI.FTN