

#461

MODELING PROGRAMS

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

<http://nssdc.gsfc.nasa.gov/nmc/>

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

- a. Associated Documents To find associated documents you will need to know the document ID number and then click here.
<http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/>

- b. Core Catalog Materials

MODELING PROGRAMS

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED TWO 9-TRACK, 1600 BPI TAPES WRITTEN IN ASCII. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL D008548 WAS CREATED ON THE MODCOMP IV COMPUTER AND D000101 WAS CREATED ON THE IBM 3081 COMPUTER AND THEY WERE RESTORED ON THE MODCOMP CLASSIC II COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	NSDF ID
DR004300	DS004300	D008548	1-16	SEE BELOW
		D018182	17-20	PG-12A

FILE	PROGRAM NAME	NSDF ID
1	FIELD/FIELD WITH 7094 JCL	PG-11A
2	ONEMAG WITH IGRF 1965	PG-12E
2	DEKMAG	PG-12D
3	LINTRA PACKAGE WITH 360 JCL	PG-12B
4	SHELLG/FIELDG WITH IGRF 1965 1970	PG-13A
5	SHELLG/FIELDG WITH 7094 JCL	PG-13A
6	INTLEG PACKAGE	PG-13A
7	INTELG PACKAGE WITH 7094 JCL	PG-13A
8	IGRF/SPHRC PACKAGE (OLD VERSION)	PG-14A
9	IGRF/SPHRC PACKAGE WITH 260 JCL	PG-14A
10	INVAR PACKAGE N/NEWMAG WITH 7094 JCL	PG-16A
11	TSFORM/DIPFLD	PG-17A
12	TSFORM/DIPFLD WITH 7094 JCL	PG-17A
13	PFITZER'S B L RETRIEVAL PACKAGE	PG-18A
14	PROGRAM TRAJLST	PG-18B
15	INVARA PACKAGE (B&L) WITH 360 JCL	PG-19A
16	ONEMAG WITH IGRF 1980	PG-12C

DOCUMENTATION

D-08548

<u>FILE</u>	<u>PROGRAM NAME</u>	<u>DOCUMENT LOCATION</u>
1	FIELD/FIELDG WITH 7094 JCL	PG BOOKLET LOCATED IN ROOM 121B
2	ALLMAG PACKAGE	"
3	ALLMAG PACKAGE	"
4	ALLMAG	"
5	DEKMAG	"
5	ONEMAG with IGRF 1965	"
6	LINTRA PACKAGE with 360 JCL	"
7	SHELLG/FIELDG with IGRF 1965 1970	"
8	SHELLG/FIELDG with 7094 JCL	"
9	INTELG PACKAGE	"
10	INTELG PACKAGE with 7094 JCL	"
11	IGRF/SPHRC PAKCAGE (old version)	"
12	IGRF/SPHRC PACKAGE with 260 JCL	"
13	INVAR PACKAGE N/NEWMAG with 7094 JCL	"
14	TIFORM/DIPFLD	"
15	TIFORM/DIPFLD with 7094 JCL	"
16	PFITZER'S B L RETRIEVAL PACKAGE	"
17	PROGRAM TRAJLST	"
18	INVARA PACKAGE (B&L) with 360 JCL	"
19	ONEMAG with IGRF 1980	"

D-00101

1	B & L PROGRAM	"
2	B & L PROGRAM	"
3	RELAY I B & L PROGRAM	"

File 1 - Field/Fieldg
PH-11A

1		SUBROUTINE FIELDG (DLAT,DLONG,ALT,TM,NMX,L,X,Y,Z,F)	1
2		COMMON /COEFFS/TG(18,18)	3
3		COMMON /FLDCOM/ST,CT,SPH,CPH,R,NMAX,BT,BP,BR,B	4
4		COMMON/SPHRC/G,GT,GTT,J,K,TZERO,AID,MAXN	
5		DIMENSION G(18,18),GT(18,18),SHMIT(18,18),AID(11)	5
6		DIMENSION GTT(18,18)	
7		EQUIVALENCE (SHMIT,TG)	2
8		IF (A.EQ.6378.165) GO TO 100	
9		A=6378.165	44
10		FLAT=1.-1./298.25	
11		A2=A**2	46
12		A4=A**4	47
13		B2=(A*FLAT)**2	48
14		A2B2=A2*(1.-FLAT**2)	49
15		A4B4=A4*(1.-FLAT**4)	50
16	100	IF(L) 19,1,2	
17	1	IF (TM-TLAST) 17,19,17	52
18	2	READ (2,3) J,K,TZERO,(AID(I),I=1,11)	
19	3	FORMAT (2I1,1X,F6.1,10A6,A3)	54
20		WRITE (3,4) J,K,TZERO,(AID(I),I=1,11)	
21	4	FORMAT (2I3,5X6HEPOCH=,F7.1,5X10A6,A3)	57
22		MAXN=0	58
23		TEMP=0.	59
24	5	READ (2,6) N,M,GNM,HNM,GTNM,HTNM,GTTNM,HTTNM	
25	6	FORMAT (2I3,6F11.4)	61
26		IF (N.LE.0) GOT07	62
27		MAXN=(MAX0(N,MAXN))	63
28		G(N,M)=GNM	64
29		GT(N,M)=GTNM	65
30		TEMP=AMAX1(TEMP,ABS(GTNM))	66
31		GTT(N,M)=GTTNM	
32		IF (M.EQ.1) GOT05	67
33		G(M-1,N)=HNM	68
34		GT(M-1,N)=HTNM	69
35		GTT(M-1,N)=HTTNM	
36		GO TO 5	70
37	7	WRITE(3,70)MAXN	
38	70	FORMAT(72X 5HMAXN=I2)	
39		IF(L.GT.1) GO TO 120	
40		WRITE (3,8)	
41	8	FORMAT (6H N M,6X1HG,10X1HH,11X2HGT,9X2HHT,8X3HGT,8X3HHT//)	
42		DO 12 N=2,MAXN	73
43		DO 12 M=1,N	74
44		MI=M-1	75
45		IF (M.EQ.1) GOT010	76
46		WRITE (3,9) N,M,G(N,M),G(MI,N),GT(N,M),GT(MI,N),GTT(N,M),GTT(MI,N)	
47	9	FORMAT(2I3,2F11.1,2F11.2,2F11.3)	
48		GO TO 12	79
49	10	WRITE (3,11) N,M,G(N,M),GT(N,M),GTT(N,M)	
50	11	FORMAT (2I3,F11.1,11X,F11.2,11XF11.3)	
51	12	CONTINUE	82
52	120	WRITE (3,13)	83
53	13	FORMAT (1H0)	
54		L=0	55
55		IF (TEMP.EQ.0.) L=-1	85
56	14	IF (K.NE.0) GOT017	86
57		SHMIT(1,1)=-1.	87
58		DO 15 N=2,MAXN	88