

WESTERN REGION TECHNICAL ATTACHMENT
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USING PMOD SOFTWARE TO REDUCE AFOS GRAPHICS FOR SWIS

The flexible PMOD software package offers many options to the user. In addition to using PMOD.sv to plot surface and upper air data, the program HCOPY.sv can be used to extract user-defined windows from AFOS graphics. An excellent example of using HCOPY to produce a single 4-panel AFOS graphic is illustrated in Programming Tip No. 41 in the May 1987 issue of the "Quarterly Computer Report". More recently, HCOPY can be used to alleviate an AFOS graphics transformation problem associated with SWIS.

AFOS graphics can be transmitted to SWIS where they are transformed to an appropriate projection for overlay on satellite imagery. Unfortunately, it has been found that some graphics, including products from the NGM and MRF, occasionally are too large for SWIS to transform. However, in most cases, only a portion of the graphic is needed for the satellite image overlay. An application of HCOPY can be used to eliminate 1/2 of the North American and Northern Hemisphere graphics before transmitting to SWIS.

This process is accomplished by using a variation of the parameter files (PF) as detailed in the above-referenced programming tip. Three examples of using HCOPY to reduce an AFOS graphic are shown in Figures 1-3. In panel (a) in each of the figures, parameter files and macros necessary to make the transformation are given, followed by (b-d), the two step process to reduce and then shift the graphic to the proper perspective.

More information on the PMOD software package can be obtained from the following references.

1. NOAA, 1983: PMOD Plotting Systems for AFOS, AOD CP83-1.
2. NOAA, 1983: Use of Programs and Files in the PMOD Software Package. Western Region AIMTEC 45.
3. Universal Graphics Generator (UGG) Library document written by Roger Davis (SOC) and distributed with previous software mailings.

Parameter Files

```

WR1.PF  WR2.PF
0       1024
0       0
2048    2048
1536    1536
100     100
0       0
0       0
1024    0
0       0
-10    -1
100     100
100     100
    
```

1b. Original graphic

1c. The following commands displace the graphic to the right, effectively cutting it in half vertically.

```

HCOPY 50H WR1.PF
GENUTF XPL0T T40
    
```

1d. The following commands shift the new graphic back to the left.

```

HCOPY T40 WR2.PF
GENUTF XPL0T T41
    
```

Figure 1a

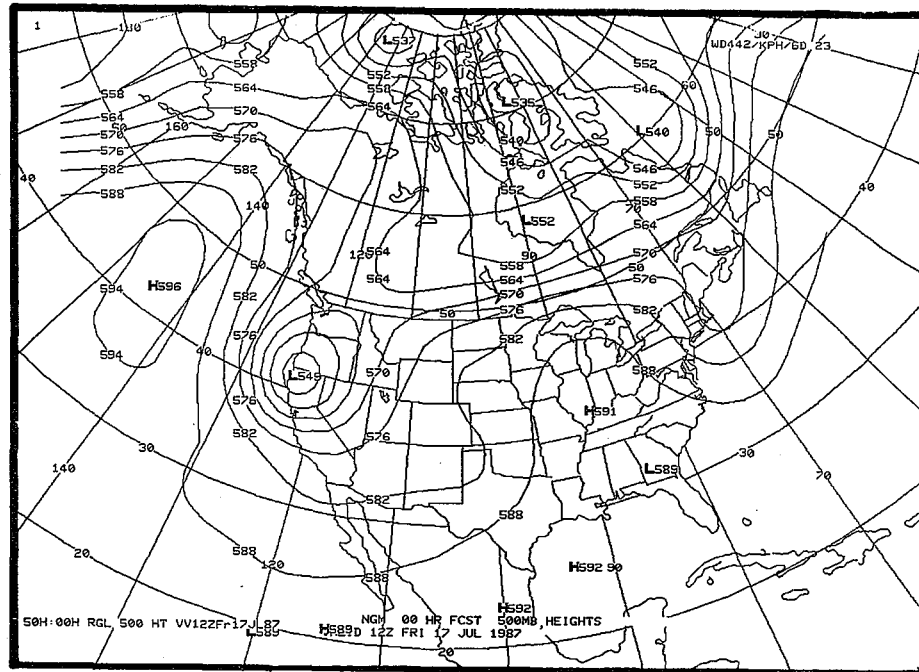


Figure 1b

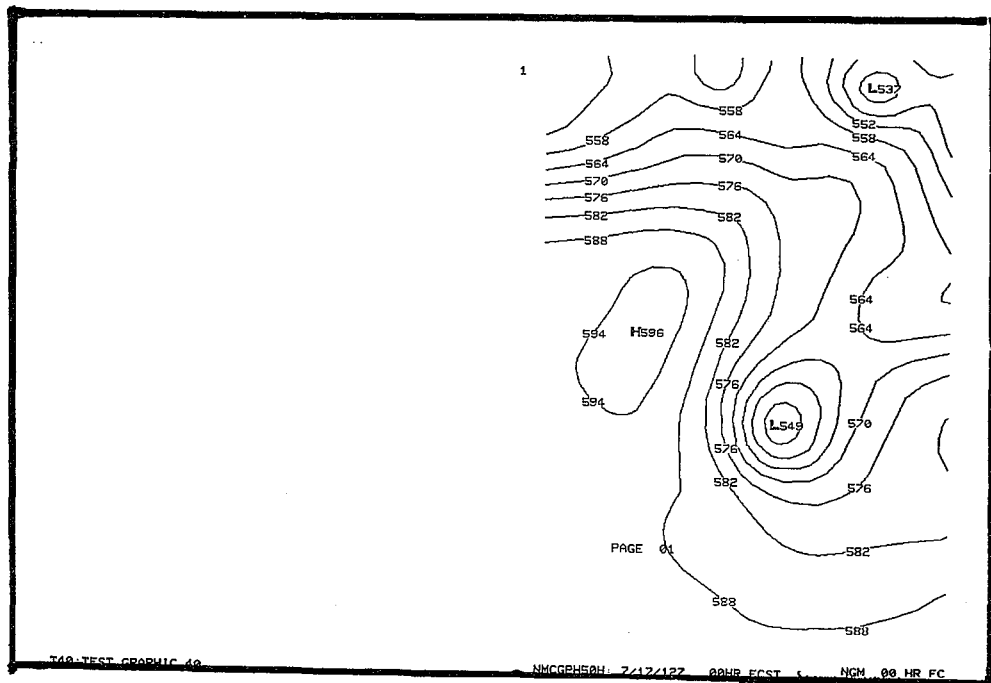


Figure 1c

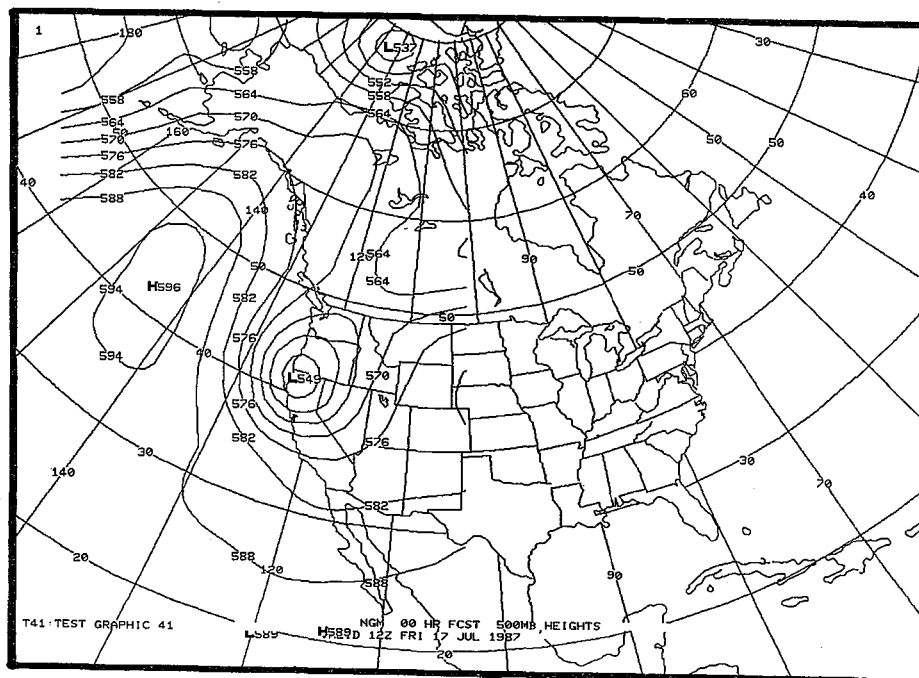


Figure 1d

Parameter Files

ER1.PF	ER2.PF
1024	0
0	0
2048	2048
1536	1536
100	100
0	0
0	0
0	1024
0	0
-1	-10
100	100
100	100

1b. Original graphic

1c. The following commands displace the graphic to the left, effectively cutting it in half vertically.

```
HCOPY 50H ER1.PF
GENUTF XPLOT T50
```

1d. The following commands shift the new graphic back to the right.

```
HCOPY T50 ER2.PF
GENUTF XPLOT T51
```

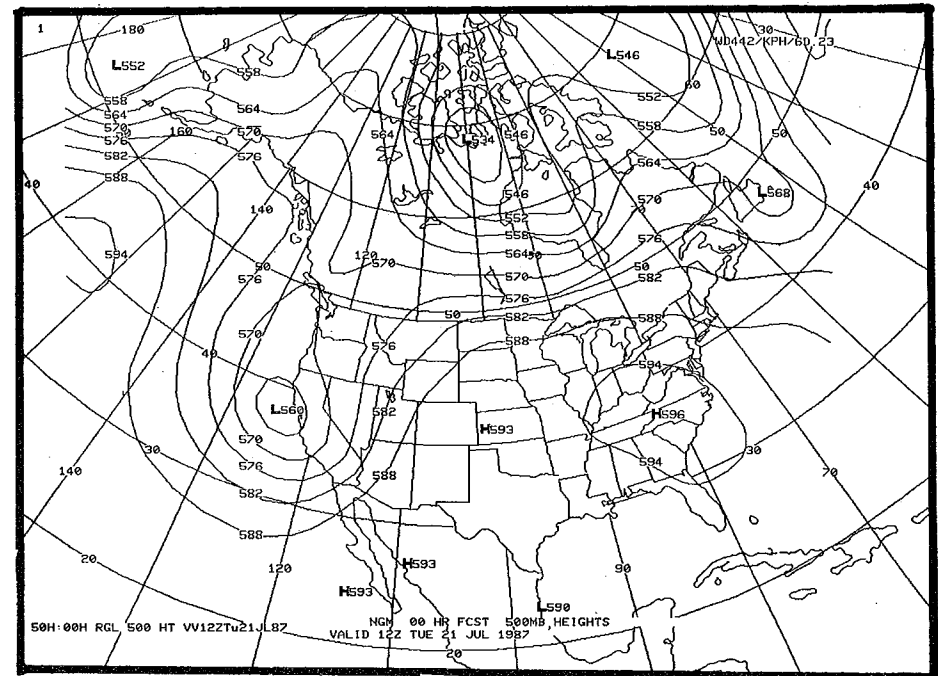


Figure 2b

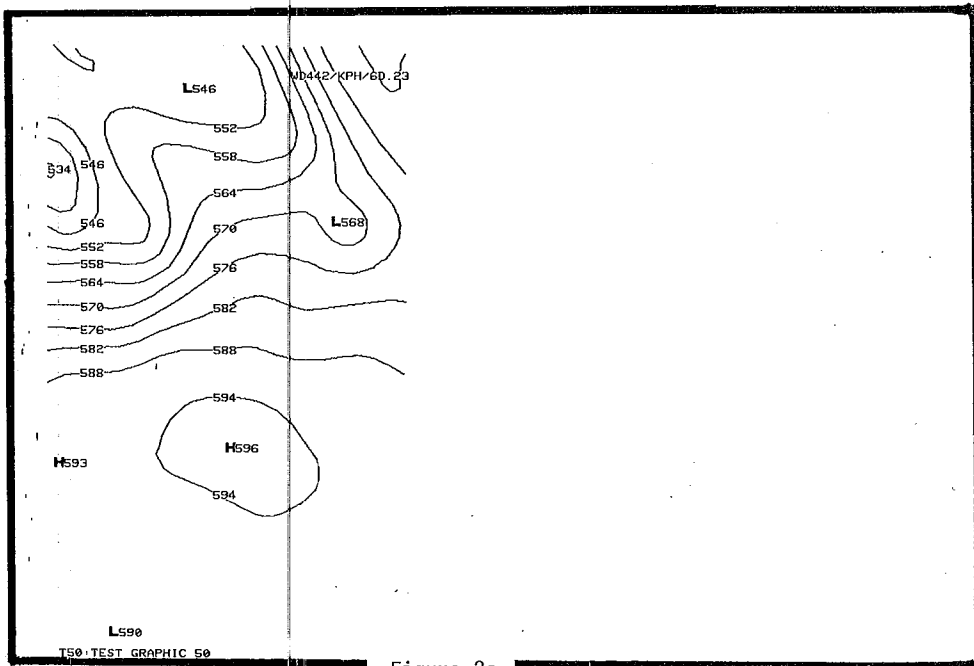


Figure 2c

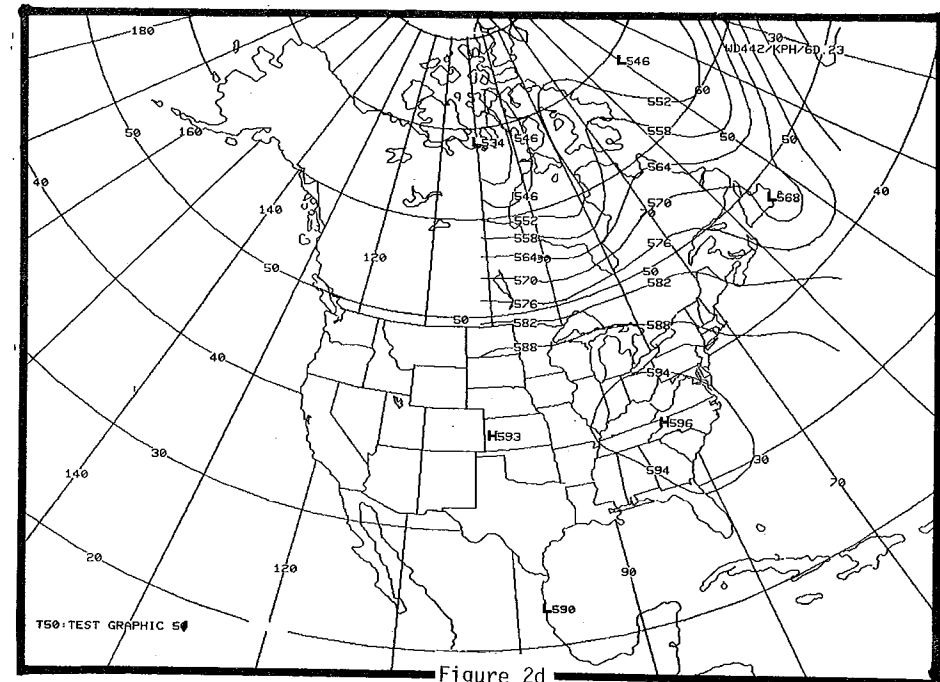


Figure 2d

Parameter Files

WH1.PF	WH2.PF
0	0
0	768
2048	2048
1536	1536
100	100
0	0
0	0
0	0
768	0
-10	-1
100	100
100	100

lb. Original graphic

lc. The following commands displace the graphic vertically, effectively cutting it in half horizontally.

HCOFY 5AH WH1.PF
GENUTF XPL0T T43

ld. The following commands shift the new graphic back down one half screen.

HCOFY T43 WH2.PF
GENUTF XPL0T T44

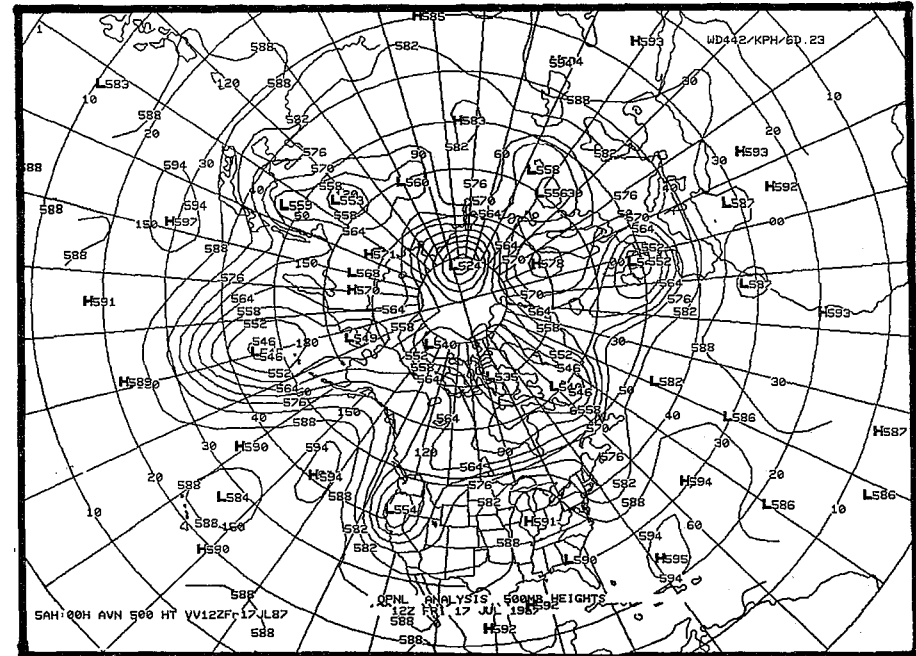


Figure 3b

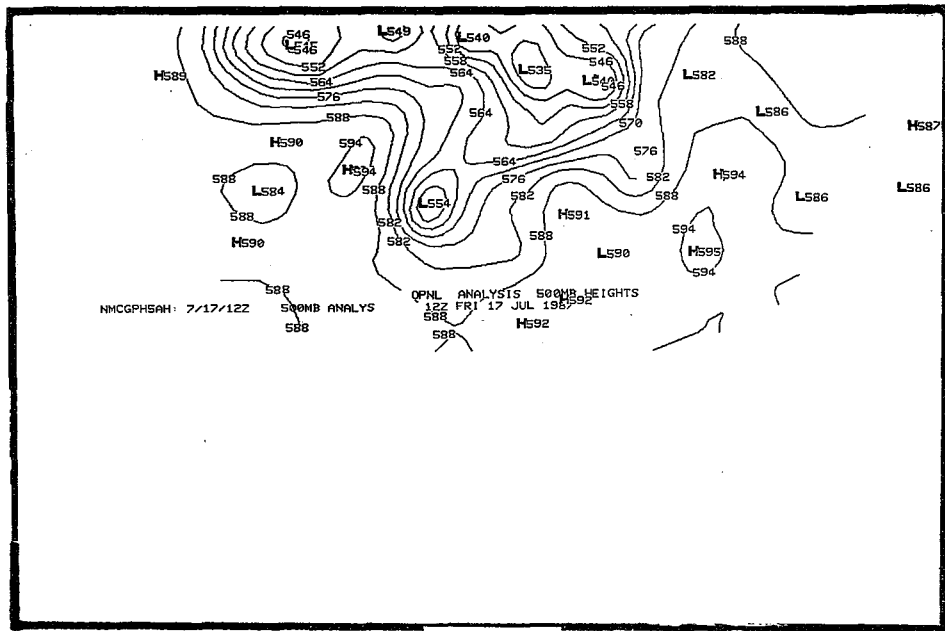


Figure 3c

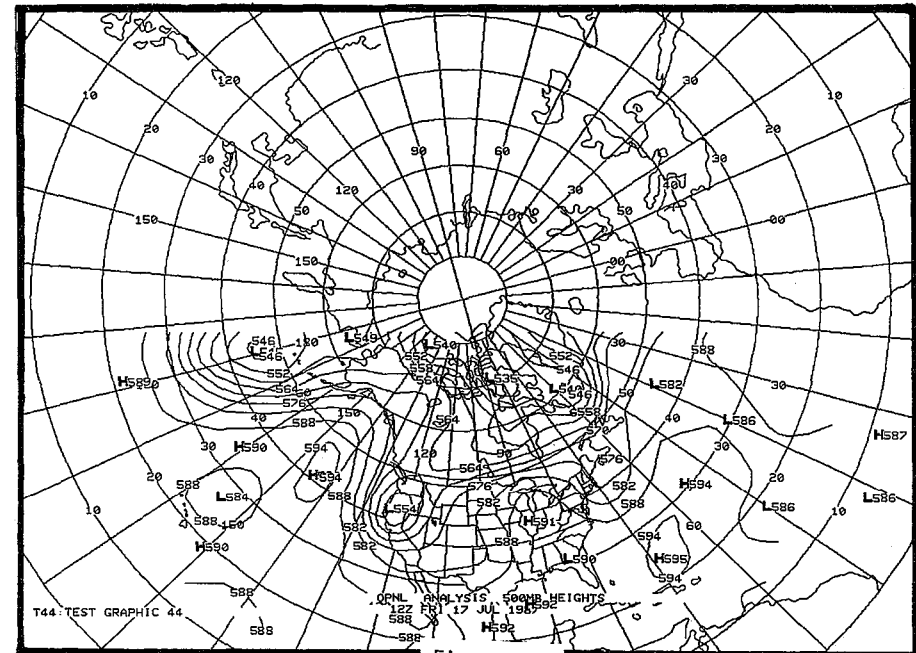


Figure 3d