

HFUS 1 BOU 111300  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 192A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 11 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
10/1200Z TO 11/1200Z: SOLAR ACTIVITY APPROACHED THE HIGH LEVEL  
DURING THE PAST 24 HOURS WITH FREQUENT M-CLASS FLARE PRODUCTION  
FROM REGION 3804 (N13E47). THIS DYNAMIC ACTIVITY CENTER HAS  
PRODUCED 15 M-CLASS XRAY EVENTS SINCE THIS TIME YESTERDAY. THE  
LARGEST WAS AN M5/1B AT 10/2017Z MAXIMUM. ALMOST EVERY FLARE  
WAS ACCOMPANIED BY SMALL TO MEDIUM SIZED CENTIMETRIC RADIO  
BURSTS AND TYPE III SWEEP FREQUENCY BURSTS. NO TYPE II/IV SWEEP  
FREQUENCY EMISSION WAS OBSERVED WITH THESE EVENTS. THE REGION  
IS A LARGE (2500 MILLIONTHS), MAGNETICALLY COMPLEX  
(GAMMA-DELTA) GROUP COMPOSED ALMOST ENTIRELY OF PENUMBRA WITH  
VERY STRONG GRADIENTS AND SLOW GROWTH. GROWTH AND SOME  
COMPLEXITY HAS ALSO BEEN REPORTED IN REGIONS 3806 (S23E30) AND  
3809 (S12E67), BUT THEIR ACTIVITY HAS BEEN OVER-SHADOWED BY  
3804. VERY ACTIVE SURGING AT NF20 INDICATES THE RETURN OF YET  
ANOTHER VERY PRODUCTIVE REGION, OLD 3781, N15, CAR 280.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE  
HIGH. REGION 3804 CONTAINS A VERY HIGH POTENTIAL FOR A LARGE  
X-CLASS EVENT PRODUCING PARTICLES AT SATELLITE ALTITUDES. THE  
POTENTIAL FOR THE RETURN OF OLD REGION 3781 NOW APPEARS HIGH.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD WAS  
ACTIVE UNTIL 11/0953Z WHEN A SUDDEN COMMENCEMENT WAS OBSERVED  
AT BOULDER FOLLOWED BY A K INDEX OF FIVE. ACTIVE TO MINOR STORM  
CONDITIONS ARE EXPECTED DURING THE NEXT 48 HOURS IN RESPONSE TO  
RECENT FLARE ACTIVITY. A SLOW RISING PROTON EVENT WAS DETECTED  
AT SATELLITE ALTITUDES BEGINNING APPROXIMATELY 10/2320Z. EVENT  
THRESHOLDS WERE CROSSED (10P/CM2/SEC/STER AT 10MEV) AT 11/0700Z  
WITH A MAXIMUM OF 20 PARTICLES REACHED AT 0935Z. THE EVENT IS  
NOW SLOWLY DECLINING.

III. EVENT PROBABILITIES 12 JUL-14 JUL

CLASS M 99/99/99

CLASS X 70/70/70

PROTON 20/20/25

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 10 JUL 203

ESTIMATED 11 JUL 230

PREDICTED 12 JUL-14 JUL 245/260/265

90 DAY MEAN 10 JUL 156

V. GEOMAGNETIC A INDICES

OBSERVED AFR 09 JUL 012 AP 10 JUL 014

ESTIMATED AFR 10 JUL 014 AFR/AP 11 JUL 022/020

PREDICTED AFR/AP 12 JUL-14 JUL 025/025-020/020-015/015

SOLTERWARN

RT

TIME  
CALLED INITIALS

HFUS 3 BOU 112200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 192B  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 11 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
11/1200Z TO 11/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE WITH  
REGION 3804 (N13E45) CONTINUING TO DOMINATE THE DISK PRODUCING  
FOUR M-CLASS EVENTS SINCE 1200Z. THE FLARES WERE AN M4/1B AT  
1403Z, AN M1/1B AT 1709Z, AN M1/SB AT 1856Z AND AN M2/SB AT  
1936Z. ALL OF THESE FLARES AND NUMEROUS SMALLER C-CLASS FLARES  
WERE ACCOMPANIED BY MINOR RADIO BURSTS AT ALL FREQUENCIES. THE  
SPOT GROUP IN 3804 REMAINS VERY COMPLEX WITH STRONG MAGNETIC  
GRADIENTS. AN ACTIVE SURGE REGION HAS BEEN REPORTED AT N24E90  
INTERMITTENTLY SINCE 11/0330Z BUT NO PLAGE AREA HAS ROTATED  
ONTO THE DISK. A VERY SMALL NEW REGION 3310 (N12E77) WAS  
NUMBERED TODAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE  
HIGH WITH CONTINUED M-CLASS FLARES AND POSSIBLY AN X-CLASS  
FLARE FROM REGION 3804 IN THE NEXT THREE DAYS.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS  
BEEN AT MINOR STORM LEVELS SINCE THE SUDDEN COMMENCEMENT AT  
11/0953Z. ACTIVE TO MINOR STORM CONDITIONS ARE EXPECTED DURING  
THE FORECAST PERIOD FROM RECENT FLARE ACTIVITY IN REGION 3804.  
A SLOW RISE PROTON EVENT BEGAN AT SATELLITE ALTITUDES AT  
10/2320Z AND REACHED A MAXIMUM AT 11/1645Z OF 30  
P/CM2/SEC/STER AT 10 MEV. IT IS DECLINING SLOWLY AT THIS TIME.

III. EVENT PROBABILITIES 12 JUL-14 JUL

CLASS M 99/99/99

CLASS X 70/70/70

PROTON 20/20/25

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 11 JUL 223

PREDICTED 12 JUL-14 JUL 240/255/260

90 DAY MEAN 11 JUL 156

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 10 JUL 011/014

ESTIMATED AFR/AP 11 JUL 024/022

PREDICTED AFR/AP 12 JUL-14 JUL 025/025-020/020-015/015

SOLTERWARN

BT

HXUS ROU 112200

PREDM 09912 09913 09914

PREDX 07012 07013 07014

PREDP 02012 02013 02514

PCAFT 00212

TENCM 24012 25513 26014

AFRED 02512 02013 01514

AFAPF 02512 02013 01514

BT