

HFUS 1 BOU 191300  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 200A  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 19 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 18/1200Z TO 19/1200Z: SOLAR ACTIVITY HAS BEEN HIGH. REGION 3804 (N14W61) RETURNED TO LIFE PRODUCING AN X1/2B AT 19/0104Z MAXIMUM, AN M7/1B AT 19/0429Z MAXIMUM, AND AN M2/1B AT 19/0903Z MAXIMUM. THE X1 WAS ACCCOMPANIED BY STRONG TYPE II AND TYPE IV INTERFEROMETRIC RADIOMETER BURSTS ALONG WITH 720 FU AT 2800MHZ. THE TWO M-CLASS EVENTS HAD LITTLE ELSE ASSOCIATED WITH THEM. REGION 3804 HAS DECAYED SIGNIFICANTLY DURING THE PAST 24 HOURS, BUT STILL DISPLAYS STRONG MAGNETIC GRADIENTS IN THE CENTRAL PORTION OF THE REGION. PENUMBRAL AREA, SPOT COUNT, AND EXTENT HAVE DIMINISHED, BUT PLAGE BRIGHTNESS AND FLUCTUATIONS CONTINUE. REGIONS 3810/3812 (CENTERED AT N16W18), WHEN COMBINED, HAVE TAKEN OVER AS THE MOST DOMINATE DISK FEATURE IN H-ALPHA. REGION 3812 (N20W18) PRODUCED AN M1/1B AT 19/0841Z MAXIMUM. REGION 3810 (N11W18) IS THE LARGER AND MORE MAGNETICALLY COMPLEX OF THE TWO REGIONS, BUT HAS ONLY MANAGED TO PRODUCE SEVERAL SUBFLARES DURING THE PERIOD. THE REMAINING DISK REGIONS HAVE CHANGED LITTLE.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH. ALTHOUGH A GENERAL DECREASE IS FORECAST IN THE 10.7CM RADIO FLUX AND SPOT NUMBER, X-CLASS ACTIVITY IS STILL POSSIBLE FROM REGION 3804 AND THE 3810/3812 COMPLEX. THE CURRENT X-RAY BACKGROUND HAS BEEN STEADY AT M1 FOR APPROXIMATELY 4 HOURS, INDICATING SOME DEVELOPMENT IN ONE OF THESE TWO COMPLEXES.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN ACTIVE DURING THE PAST 24 HOURS. A SUDDEN COMMENCEMENT IS EXPECTED LATER TODAY (APPROX 18-22Z) IN RESPONSE TO THE X3/2B FLARE FROM REGION 3804 ON 17 JULY AT 1028Z. THE STRONGEST RESPONSE TO THIS FLARE IS FORECAST TO COME ON THE 20TH, WITH MINOR STORM LEVELS EXPECTED. THE REMAINDER OF THE PERIOD SHOULD EXPERIENCE ACTIVE CONDITIONS.

### III. EVENT PROBABILITIES 20 JUL-22 JUL

CLASS M 95/95/80

CLASS X 40/30/10

PROTON 30/20/05

PCAF YELLOW

### IV. OTTAWA 10.7 CM FLUX

OBSERVED 18 JUL 246

ESTIMATED 19 JUL 235

PREDICTED 20 JUL-22 JUL 220/200/190

90 DAY MEAN 18 JUL 165

### V. GEOMAGNETIC A INDICES

OBSERVED AFR 17 JUL 020 AP 18 JUL 026

ESTIMATED AFR 18 JUL 022 AFR/AP 19 JUL 025/020

PREDICTED AFR/AP 20 JUL-22 JUL 035/035-020/025-025/020

SOLTERWARN

BT

HXUS BOU 192200  
PREDM 09520 09521 08022  
PREDX 04020 03021 01022  
PREDP 03020 02021 00522  
PCAF 00220  
TENCM 20520 19021 18022  
AFRED 03520 02021 02522  
AFAPF 03520 02521 02022

BT  
HFUS 3 BOU 192200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 200B  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 19 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 19/1200Z TO 19/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE FOR THE PAST 9 HOURS. SMALL CLASS M EVENTS HAVE OCCURRED IN REGION 3804(N15W66) AT 1815Z AND 2020Z, IN REGION 3810(N14W22) AT 1253Z AND IN REGION 3812(N20W23) AT 1850Z. LOCALIZED GROWTH OF SUNSPOTS IN REGIONS 3804 AND 3810 APPEARS TO ACCOUNT FOR THE RESURGENCE OF ACTIVITY IN THESE REGIONS. OTHERWISE, THESE AND ALL OTHER ACTIVE REGION NOW VISIBLE ARE DECLINING. THIS DECLINE IS REFLECTED IN THE SHARP DROP IN THE 10 CM RADIO FLUX.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO REMAIN MODERATE FOR THE NEXT TWO OR THREE DAYS AS REGION 3804 TRANSITS WEST LIMB. AN ISOLATED CLASS X EVENT IS STILL POSSIBLE. PROTON EMISSION IS BECOMING LESS LIKELY AS THE MAGNETIC STRUCTURE IN REGION 3804 SIMPLIFIES.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN IN MINOR STORM CONDITION THROUGHOUT THIS PERIOD. THIS STORM IS EXPECTED TO INTENSIFY DURING THE NEXT 36 HOURS. ANOTHER INCREASE IN ACTIVITY IS EXPECTED ON 22 JULY AS A RESULT OF THE FILAMENT DISAPPEARANCE AND X1 FLARE OF THE PAST DAY.

III. EVENT PROBABILITIES 20 JUL-22 JUL

CLASS M 95/95/80

CLASS X 40/30/10

PROTON 30/20/05

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 19 JUL 227

PREDICTED 20 JUL-22 JUL 205/190/180

90 DAY MEAN 19 JUL 166

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 18 JUL 022/026

ESTIMATED AFR/AP 19 JUL 025/020

PREDICTED AFR/AP 20 JUL-22 JUL 035/035-020/025-025/020

SOLTERWARN

BT

HXUS BOU 192200  
PREDM 09520 09521 08022  
PREDX 04020 03021 01022  
PREDP 03020 02021 00522  
PCAF 00220  
TENCM 20520 19021 18022  
AFRED 03520 02021 02522  
AFAPF 03520 02521 02022

BT