

HFUS 1 BOU 141300  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 195A  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 14 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 13/1200Z TO 14/1200Z: SOLAR ACTIVITY HAS BEEN MODERATE. ALTHOUGH A DECLINE IN ACTIVITY WAS NOTED, THE POTENTIAL APPEARS UNABATED. REGION 3804 (N13E09) IS SLOWLY FRAGMENTING BUT ITS SIZE, COMPLEXITY AND DYNAMIC CHARACTERISTICS REMAIN FAR IN EXCESS OF THOSE NORMALLY THOUGHT TO BE ESSENTIAL FOR SIGNIFICANT FLARE PRODUCTION. POCKETS OF TIGHT GRADIENTS CONTINUE TO BE OBSERVED THROUGHOUT THE REGION AND PLAGE FLUCTUATIONS TO INTENSITY 4 ARE COMMON. REGION 3806 (S24W08) REMAINS A BETA GAMMA DELTA MAGNETIC TYPE AND ITS PLAGE IS BRIGHT, COMPACT AND FLUCTUATING. A CLASS M FLARE FROM THIS REGION AT 132156Z (MAX) WAS THE MOST ENERGETIC OF THE 10 OR SO SUBFLARES THIS REGION HAS PRODUCED IN THE PAST 24 HOURS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD BE MODERATE TO HIGH. THE DECAYING PHASE OF 3804 IS LIKELY TO PRODUCE X CLASS ACTIVITY WHILE THE GROWTH IN REGION 3806 IS INCREASING THE THREAT FOR X CLASS FLARES FROM THIS REGION.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD IS SEVERELY DISTURBED. A SUDDEN COMMENCEMENT AT 131618Z RESULTED IN A STORM OF SUFFICIENT MAGNITUDE TO PRODUCE AURORA AT LEAST AS FAR SOUTH AS BOULDER. PARTICLE FLUXES WHICH INCREASED DRAMATICALLY AT THE TIME OF THE SSC AND MAXED AT 2900 PARTICLES/CM<sup>2</sup>/SEC/STER HAVE NOW DECLINED TO ABOUT 30 PARTICLES. THE OBSERVED POLAR CAP ABSORPTION DECAYED BELOW 2 DB AT 140300Z. A CONTINUED DECAY OF THE OVERALL GEOPHYSICAL CONDITIONS IS EXPECTED WITH NEAR NORMAL CONDITIONS BEING OBSERVED BY 17 JULY.

III. EVENT PROBABILITIES 15 JUL-17 JUL

CLASS M 99/99/99

CLASS X 70/70/70

PROTON 30/30/30

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 13 JUL 250

ESTIMATED 14 JUL 255

PREDICTED 15 JUL-17 JUL 256/250/240

90 DAY MEAN 13 JUL 158

V. GEOMAGNETIC A INDICES

OBSERVED AFR 12 JUL 039 API 13 JUL 133

ESTIMATED AFR 13 JUL 100 API 14 JUL 115/130

PREDICTED AFR/API 15 JUL-17 JUL 040/040-020/040-015/025

SOLTERWARN

BT

HXUS BOU 142200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 195B  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 14 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 14/1200Z TO 14/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE FOR THE PAST 9 HOURS. REGION 3804 (N14E01) PRODUCED 3 M-CLASS EVENTS INCLUDING A LONG-LIVED 2B OPTICAL FLARE WHICH HAD AN M1 X-RAY MAXIMUM AT 1331Z AND SECOND MAXIMUM, M3, AT 1521Z. REGION 3804 CONTINUES TO RETAIN ITS COMPLEXITY AND HAS MANAGED TO REGAIN SOME OF THE SPOT AREA WHICH IT LOST YESTERDAY. THE LARGEST EVENT OF THIS REPORTING PERIOD WAS AN M7/2B FLARE MAXING AT 1748Z FROM REGION 3812 (N21E43). REGION 3812 HAS DOUBLED IN SPOT COUNT AND AREA AND IS NOW THE SECOND MOST ACTIVE REGION ON THE DISK. REGION 3806 (S24W16) HAS CLEARLY DECAYED IN H-ALPHA AND MAGNETIC COMPLEXITY AND IS NO LONGER A THREAT FOR A MAJOR FLARE. NEW REGIONS ARE 3814 (N21E17) AND 3815 (S20E43). BOTH ARE B-TYPE GROUPS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE HIGH BASED ON FLARE POTENTIAL IN REGION 3804. REGION 3812 IS CAPABLE OF SUSTAINED M-CLASS ACTIVITY AND AN ISOLATED M-CLASS FLARE IS POSSIBLE FROM REGION 3806.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN AT MINOR STORM LEVELS FOR THE PAST 9 HOURS. THE MAXIMUM DST INDEX FOR THIS STORM WHICH BEGAN 13 JULY AT 1618Z WAS ESTIMATED IN EXCESS OF 300 GAMMAS AT 0300Z ON 14 JULY. HOWEVER, THE DISTURBANCE HAS DIMINISHED FROM THE SEVERE LEVELS EXPERIENCED EARLIER TODAY, AND IT IS EXPECTED TO CONTINUE TO DECLINE TO OVERALL MINOR STORM CONDITIONS TOMORROW AND ACTIVE CONDITIONS FOR THE REMAINDER OF THE FORECAST PERIOD. THE PROTON EVENT HAS DECLINED TO NEAR THRESHOLD LEVELS. THE FLUX AT FORECAST TIME WAS 15 PROTONS/CM<sup>2</sup>/ SEC/STER. THIS PROTON EVENT IS EXPECTED TO END WITHIN THE NEXT 24 HOURS UNLESS ADDITIONAL MAJOR FLARES OCCUR.

III. EVENT PROBABILITIES 15 JUL-17 JUL

CLASS M 99/99/99

CLASS X 70/70/70

PROTON 30/30/30

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 14 JUL 262

PREDICTED 15 JUL-17 JUL 265/260/255

90 DAY MEAN 14 JUL 160

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 13 JUL 133/133

ESTIMATED AFR/AP 14 JUL 89/115

PREDICTED AFR/AP 15 JUL-17 JUL 040/040-020/040-015/025

SOLTERWARN 100

BT

HXUS BOU 142200

PREDM 09915 09916 09917

PREDX 07015 07016 07017

PREDP 03015 03016 03017

PCAF 00215

TENCM 26515 26016 25517

AFRED 04015 02016 01517

AFAPP 04015 04016 02517

BT