

HFUS 1 BOU 171300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 198A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 17 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 16/1200Z TO 17/1200Z: SOLAR ACTIVITY RETURNED TO THE HIGH LEVEL AFTER SEVERAL DAYS WITHOUT AN X-CLASS FLARE. REGION 3804 (N14W32) PRODUCED AN X3/2B AT 17/1035Z MAXIMUM. THIS FLARE PRODUCED STRONG RADIO EMISSION THROUGH THE CENTIMETRIC SPECTRUM (1200 FU AT 2695MHZ) AND STRONG SHORT WAVE FADES TO 15MHZ, BUT NO TYPE II OR IV RADIO SWEEP WAS RECORDED. THIS REGION ALSO PRODUCED AN M8/1B FLARE AT 17/0207Z MAXIMUM WITH STRONG RADIO EMISSION IN A CASTELLI U SHAPED SIGNATURE. 740 FU AT 2695MHZ WAS OBSERVED FROM THIS FLARE. REGION 3804 HAS EVIDENTLY ENTERED ITS DECAY PHASE SHOWING A TENDENCY TO SPREAD LONGITUDINALLY AND A DECLINE IN ITS SPOT AREA. ITS MAGNETIC STRUCTURE NEAR THE CENTER OF THE REGION STILL DISPLAYS STRONG GRADIENTS HOWEVER. REGION 3812 (N20E10) AND REGION 3810 (N12E07) LOCATED JUST TO THE SOUTH OF 3812, CONTINUE TO BE THE NEXT MOST DOMINATE COMPLEX, BUT HAVE MANAGED ONLY SUBFLARES IN THE PAST 12 HOURS. OF THE REMAINING 10 SPOTTED REGIONS ON THE DISK, 7 HAVE PRODUCED MINOR SUBFLARE ACTIVITY, SHOWING THAT THE ACTION HAS NOT BEEN LIMITED TO THE LARGE REGIONS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH. REGION 3804 SHOULD PRODUCE AT LEAST ONE MORE X-CLASS EVENT PRIOR TO WEST LIMB ROTATION. THE 3810/3812 COMPLEX NOW APPEARS CAPABLE OF A SMALL X-CLASS EVENT.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN AT MINOR STORM LEVELS. CURRENT INDICATIONS FROM THE ISEE SPACECRAFT AND GROUND BASED MAGNETOMETERS ARE THAT THE FIELD MIGHT BE GRADUALLY SETTling BACK TO ACTIVE CONDITIONS. ACTIVE CONDITIONS ARE FORECAST THROUGH MID-DAY ON THE 19TH, WHEN MINOR STORM LEVELS ARE EXPECTED AS A RESULT OF TODAY'S X3/2B. A MINOR PARTICLE ENHANCEMENT IS EXPECTED BY LATE TODAY (2000Z) FROM THE X3 FLARE, BUT IT IS NOT FELT THAT IT WILL REACH EVENT CRITERIA.

III. EVENT PROBABILITIES 18 JUL-20 JUL

CLASS M 99/99/99

CLASS X 60/50/40

PROTON 50/40/30

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 16 JUL 271

ESTIMATED 17 JUL 270

PREDICTED 18 JUL-20 JUL 265/260/255

90 DAY MEAN 16 JUL 162

V. GEOMAGNETIC A INDICES

OBSERVED AFR 15 JUL 040 AP 16 JUL 040

ESTIMATED AFR 16 JUL 035 AFR/AP 17 JUL 028/035

PREDICTED AFR/AP 18 JUL-20 JUL 020/025-020/027-030/035

SOLTERWARN

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HFUS 3 BOU 172200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 198B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 17 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
17/1200Z TO 17/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE TO LOW  
THIS PAST 9 HOURS. CLASS M EVENTS OCCURRED ONLY NEAR THE  
BEGINNING OF THE PERIOD: M2/SB AT 1307Z FROM REGION  
3804(N14W39) AND M1/SB AT 1350Z FROM REGION 3806 (S24W58).  
SUNSPOT GROWTH IN THE CENTRAL PORTION OF GIANT REGION 3804  
MAINTAINS ITS HIGH MAGNETIC GRADIENT AND COMPLEX DELTA  
CONFIGURATION. GROWTH OF SPOTS IN REGION 3810(N13E03) HAS  
INCREASED ITS COMPLEXITY. MINOR GROWTH IN REGION 3806 AND  
REGION 3817(N18E42) HAS BEEN ACCOMPANIED BY SMALL FLARES. SLOW  
DECAY IS OCCURRING IN OTHER REGIONS.

IB. SOLAR ACTIVITY FORECAST: A SINGLE CLASS X FLARE WITH PROTON  
EMISSION MAY OCCUR BEFORE WEST LIMB PASSAGE OF REGION 3804.  
RADIO AND SUNSPOT INDICES ARE EXPECTED TO DECLINE DURING THIS  
FORECAST PERIOD.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS  
BECOME MUCH LESS ACTIVE DURING THE PAST NINE HOURS. THE  
QUIET-LOOKING TRACES ON THE RECORDERS ARE DECEPTIVE IN THAT THE  
FIELD IS STILL DISPLACED FROM NORMAL. ACTIVE CONDITIONS ARE  
EXPECTED DURING THE NEXT 24 HOURS, WITH A MINOR STORM EXPECTED  
ON 19 JULY AS A RESULT OF THE X3 EVENT EARLIER TODAY.

III. EVENT PROBABILITIES: 18 JUL-20 JUL

CLASS M 90/90/90

CLASS X 50/40/30

PROTON 40/30/20

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 17 JUL 265

PREDICTED 18 JUL-20 JUL 255/245/235

90 DAY MEAN 17 JUL 164

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 16 JUL 050/040

ESTIMATED AFR/AP 17 JUL 019/026

PREDICTED AFR/AP 18 JUL-20 JUL 015/020-025/027-035/035

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