

HFUS 3 BOU 082200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 128  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 08 MAY 1983

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 07/2100 TO 08/2100Z: SOLAR ACTIVITY INCREASED DRAMATICALLY DURING THE PAST 24 HOURS WITH THE OCCURRENCE OF TWO MAJOR EVENTS. THE FIRST; AN X3/2B WAS OBSERVED AT 07/2208Z MAXIMUM, WHILE THE SECOND AND PROBABLY THE MORE SPECTACULAR OF THE TWO OCCURRED AT 08/0333Z MAXIMUM. BOTH HAD STRONG DISCRETE FREQUENCY RADIO BURSTS ASSOCIATED WITH THEM AND BOTH WERE OBSERVED NEAR THE CENTRAL PORTION OF REGION 4171 (S30E51 CURRENTLY). THE SECOND FLARE REACHED X1 IN XRAY, BUT WAS A LONG DURATION EVENT LASTING ALMOST NINE HOURS OPTICALLY. STRONG TYPE III/IV RADIO SWEEPS WERE OBSERVED WITH BOTH EVENTS. THE 10.7CM BURST ASSOCIATED WITH THE FIRST EVENT WAS RECORDED AT 610 FLUX UNITS WHILE THE SECOND PRODUCED 990FU. REGION 4171 HAS CONTINUED TO DISPLAY AN ACTIVE INVERSION LINE AND CONTINUOUS PLAGE FLUCTUATIONS, BUT HAS REMAINED RELATIVELY QUIET SINCE THESE TWO EVENTS. REGION 4167 (N13W61) HAS DISPLAYED SOME MINOR GROWTH AND IS NOW A BETA-GAMMA SPOT AREA, BUT HAS ONLY MANAGED MINOR ACTIVITY. REGION 4173 (S11E04) HAS DISPLAYED RAPID GROWTH DURING THE PAST 12 HOURS, BUT HAS REMAINED QUIET. NO NEW REGIONS WERE NUMBERED TODAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD BE MODERATE TO HIGH THROUGH THE FORECAST PERIOD. REGION 4171 APPEARS TO BE THE TYPE OF REGION TO STORE ENERGY AND RELEASE IT ALL AT ONCE IN THE FORM OF A LARGE ENERGETIC EVENT. IF THIS IS TRUE, ISOLATED X-CLASS EVENTS ARE POSSIBLE, ESPECIALLY IF ITS CURRENT COMPLEXITY REMAINS INTACT. GROWTH TRENDS IN SOME OF THE OTHER DISK REGIONS COULD INCREASE THE M-CLASS FLARE PRODUCTION.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 07/2100Z TO 08/2100Z: THE GEOMAGNETIC FIELD HAS BEEN UNSETLED.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BECOME ACTIVE TO MINOR STORM LEVELS BY EARLY IN THE UT DAY ON THE 9TH. THE EXPECTED STORM FROM THE FILAMENT ERUPTION SHOULD BE THE SOURCE OF THIS ACTIVITY. ACTIVE CONDITIONS SHOULD CONTINUE THROUGH THE DURATION OF THE FORECAST WITH AN INCREASE ON THE 11TH IN RESPONSE TO TODAYS ACTIVITY.

III. EVENT PROBABILITIES 09 MAY-11 MAY

CLASS M 80/80/80

CLASS X 30/30/30

PROTON 10/10/20

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 08 MAY 125

PREDICTED 09 MAY-11 MAY 127/129/130

90 DAY MEAN 08 MAY 118

V. GEOMAGNETIC A INDICES

OBSERVED AFD/AE