

FUS 3 BOU 102200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 130

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 10 MAY 1983

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 09/2100 TO 10/2100Z: SOLAR ACTIVITY WAS HIGH DURING THE PAST 24 HOURS. REGION 4171 (S30E27) PRODUCED AN X2/2B FLARE AT 09/2309Z MAXIMUM. THIS FLARE WAS ACCCOMPANIED BY STRONG DISCRETE FREQUENCY RADIO-BURSTS AT BOTH ENDS OF THE SPECTRUM (89000 FLUX UNITS AT 245MHZ AND 2000 FLUX UNITS AT 8800MHZ) RESULTING IN A CASTELLI U-SHAPED SIGNATURE. 310 FLUX UNITS WERE RECORDED AT 2695MHZ. AN IMPORTANCE 2 TYPE II SWEEP FREQUENCY BURST LASTING 15 MINUTES WAS ALSO REPORTED, BUT NO TYPE IV SWEEP. REGION 4173 (S11W22) HAS DEVELOPED DRAMATICALLY DURING THE PAST 24 HOURS AND ALONG WITH THIS GROWTH HAS PRODUCED AN M3/1B FLARE AT 10/1212Z MAXIMUM. THIS FLARE WAS ACCCOMPANIED BY MODERATE DISCRETE FREQUENCY RADIO BURSTS (130FU AT 2695MHZ). THIS REGION HAS TRIPLED IN SIZE AND NOW CONTAINS A BETA-GAMMA MAGNETIC CONFIGURATION WITH STRONG GRADIENTS. REGION 4171 HAS BEGUN TO DISPLAY SLIGHT WHITE LIGHT DECAY. NO NEW REGIONS WERE NUMBERED TODAY. THE REMAINING DISK REGIONS HAVE BEEN QUIET.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD CONTINUE MODERATE TO HIGH WITH REGIONS 4172 (S09E28), AND 4173 CAPABLE OF M-CLASS FLARE PRODUCTION AND 4171 CAPABLE OF ISOLATED X-CLASS FLARES. AS REGION 4171 MOVES CLOSER TO CENTRAL MERIDIAN, THE POTENTIAL FOR A SMALL PROTON EVENT SHOULD INCREASE.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 09/2100Z TO 10/2100Z: THE GEOMAGNETIC FIELD HAS BEEN AT UNSETTLED LEVELS WITH A SLIGHT INCREASE DETECTED IN ACTIVITY NEAR THE END OF THE PERIOD.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE FIELD IS EXPECTED TO BECOME ACTIVE (WITH PERIODS AT MINOR STORM LEVELS FOR HIGH LATITUDES) BY EARLY IN THE FORECAST PERIOD. THIS CONDITION SHOULD THEN CONTINUE FOR THE DURATION OF THE 3 DAY PERIOD IN RESPONSE TO RECENT FLARE ACTIVITY AND THE INFLUENCE OF A FAVORABLY LOCATED CORONAL HOLE.

III. EVENT PROBABILITIES 11 MAY-13 MAY

CLASS M 80/80/80

CLASS X 30/30/30

PROTON 20/20/30

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 10 MAY 140

PREDICTED 11 MAY-13 MAY 145/150/151

90 DAY MEAN 10 MAY 118

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 09 MAY 008/008

ESTIMATED AFR/AP 10 MAY 010/012

PREDICTED AFR/AP 11 MAY-13 MAY 030/025-025/025-020/020