

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 ACCOMPANIED 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 ACCOMPANIED 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