

HFUS 1 BOU 2 12200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 02

JOINT USAF/NOAA PRIMARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 21 FEBRUARY 1979

IA. SOLAR ACTIVITY HAS BEEN MODERATE TO HIGH THE PAST 24 HOURS. REGION 1568 (N19W55) PRODUCED A M8/SB FLARE AT 20/2210Z. CULGOORA REPORTED TYPE I AND IV RADIATION BEGINNING WITH THIS FLARE AND STILL IN PROGRESS, BUT DIMINISHING, AT 21/0600Z. REGION 1574 (N17W28) PRODUCED A X1/1B AT 21/1422Z (MAX). IN ADDITION, THE FOLLOWING CLASS M EVENTS (WITH X-RAY MAX TIMES) HAVE OCCURRED: 2352Z (M2/SB IN 1574); 0045Z (M1); 0938Z (M1); 1133Z (M1); 1601Z (M2/SB IN 1574); AND, 2015Z (M4/SB IN 1574). REGION 1574 REMAINS EXTENSIVE AND COMPLEX WITH NUMEROUS POLARITY INCURSIONS. REGION 1568 ALSO REMAINS MAGNETICALLY COMPLEX, BUT IS DIMINISHING IN STRUCTURE. REGION 1579 (N09W60) ALSO CONTAINS MIXED POLARITIES. REGION 1587 (S15W45) IS SLOWLY EMERGING TODAY.

IB. SOLAR ACTIVITY IS EXPECTED TO REMAIN MODERATE TO HIGH. REGION 1574 IS CAPABLE OF PRODUCING CLASS X EVENTS WITH REGIONS 1568 AND 1579 CAPABLE OF PRODUCING CLASS M EVENTS. WITH THE FAVORABLE GEOMETRY OF THESE REGIONS, A PROTON EVENT IS LIKELY DURING THE FORECAST PERIOD.

II. THE GEOMAGNETIC FIELD HAS BEEN IN A STORM CONFIGURATION FOLLOWING A SUDDEN COMMENCEMENT AT 21/0302Z. BOULDER MAGNETOMETER EXPERIENCED AN EXTREMELY IMPULSIVE RESPONSE OF 60 GAMMA ON BOTH THE H AND D COMPONENTS AT 1549Z. SATELLITE MAGNETOMETERS ALSO RESPONDED SHARPLY FOLLOWING THIS IMPULSE. THE GEOMAGNETIC FIELD IS EXPECTED TO BE ACTIVE WITH PERIODS AT STORM LEVEL DURING THE FORECAST PERIOD DUE TO SECTOR STRUCTURE AND SOLAR FLARE ACTIVITY.

III. EVENT PROBABILITIES 22 FEBRUARY - 24 FEBRUARY

CLASS M 95/95/95

CLASS X 50/50/50

PROTON 60/60/60

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 21 FEBRUARY 230

PREDICTED 22-24 FEBRUARY 226/224/218

90-DAY MEAN 21 FEBRUARY 194

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 20 FEBRUARY 03

ESTIMATED AFR/AP 21 FEBRUARY 36/48

PREDICTED AFR/AP 22-24 FEBRUARY 22/20 - 35/40 - 18/15

SOLTERWAR N

BT