

HFUS 3 BOU 202200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 051

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 20 FEB 1984

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 19/2100 TO 20/2100Z: SOLAR ACTIVITY HAS BEEN LOW DURING THE PAST 24 HOUR PERIOD. REGION 4421 (N15E38) HAS PRODUCED ONLY FREQUENT LOW-LEVEL C X-RAY AND SUB-FLARE EVENTS. IT STOPPED ITS AREA GROWTH AND SPLIT ITS LARGE MAIN H-ALPHA SPOT. ITS SPOT NUMBER CONTINUED TO INCREASE WITH A LONGITUDINAL EXTENT INCREASE AS WELL. BECAUSE OF THE MAIN SPOT SPLIT, ITS MAGNETIC CONFIGURATION CHANGED TO A BETA-DELTA. REGION 4422 (N10E63) CHANGED LITTLE, BUT ITS ROTATION AROUND THE LIMB ALLOWED ITS BETA-DELTA MAGNETIC CONFIGURATION TO BE SEEN. NO NEW REGIONS WERE ASSIGNED.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE AT A MODERATE LEVEL THROUGHOUT THE FORECAST PERIOD. REGION 4421 CONTINUES TO PROMISE A SLIGHT CHANCE OF HIGH LEVEL ACTIVITY. REGION 4406 (S13, L=048) WILL RETURN AT 21/2000Z WITH ITS HISTORY OF 1 M LEVEL X-RAY AND 3 SUB-FLARES FROM THE LAST ROTATION.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 19/2100Z TO 20/2100Z: GEOMAGNETIC ACTIVITY HAS BEEN AT AN UNSETTLED LEVEL DURING THE PAST 24 HOURS. ONLY THULE REPORTED BRIEF STORM LEVELS. THE 10MEV PROTON EVENT REMAINED IN-PROGRESS THROUGHOUT THE PERIOD, AND REACHED A MAXIMUM OF 45 P/CM<sup>2</sup>/SEC/STER AT 20/2005Z. THIS EVENT WAS ATTRIBUTED TO THE X2/2B EVENT AT REGION 4421 AT 17/2301Z.

IIB. GEOPHYSICAL ACTIVITY FORECAST: GEOMAGNETIC ACTIVITY IS EXPECTED TO BE AT AN ACTIVE LEVEL THROUGHOUT THE FORECAST PERIOD. BRIEF PERIODS OF STORM LEVEL ACTIVITY IS EXPECTED AFTER 21 FEB DURING NIGHT-TIME PERIODS AT MID AND HIGH LATITUDES. THIS ACTIVITY IS EXPECTED DUE TO THE COMBINATION OF SOLAR SECTOR BOUNDARIES, WITH THE RECURRENT ACTIVE CARRINGTON LONGITUDES; AND THE DELAYED EFFECT OF THE X2/2B EVENT FROM REGION 4421 AT 17/2301Z. THE OUTLOOK IS FOR CONTINUED ACTIVE/STORM LEVELS DURING THE FOLLOWING FIVE DAYS.-

III. EVENT PROBABILITIES 21 FEB-23 FEB

CLASS M 90/90/90

CLASS X 20/20/20

PROTON 05/05/05

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 20 FEB 138

PREDICTED 21 FEB-23 FEB 155/165/175

90 DAY MEAN 20 FEB 109

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 19 FEB 006/010

ESTIMATED AFR/AP 20 FEB 010/010

PREDICTED AFR/AP 21 FEB-23 FEB 015/015-020/020-020/015

SOLTERWARN

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